CAL ROOM
LIBRARY
MICH.
OCT 21 1924

MSS. and other Communications for the Editor should be addressed to G. E. MOORE, Litt.D., 86 Chesterton Road, Cambridge.
No contribution reaching the Editor later than 10th December next can appear in the January Number of MIND.

VOL. XXXIII. No. 132. OCTOBER, 1924.

MIND

A QUARTERLY REVIEW
OF
PSYCHOLOGY AND PHILOSOPHY.

EDITED BY
G. E. MOORE,
WITH THE CO-OPERATION OF PROFESSOR PRINGLE-PATTISON, DR. C. D. BROAD, AND F. C. BARTLETT, M.A.

CONTENTS.

	PAGE
I.—Recent Criticism of the Idealist Theory of the General Will (III.): J. H. MUIRHEAD	361
II.—Mr. Johnson on the Logical Foundations of Science: (II.) C. D. BROAD	369
III.—Truth and Purpose: ALFRED SIDGWICK	385
IV.—A Note on the Indian Syllogism: H. N. RANDLE	398
V.—An Idealistic Source of Instrumentalist Logic: S. P. LAMPRECHT	415
VI.—Discussion:	
A Note on the Eleatics: T. WHITTAKER	428
VII.—Critical Notices:	
F. C. Bartlett: *Psychology and Primitive Culture*: G. C. FIELD	433
L. T. Hobhouse: *Social Development*: F. C. BARTLETT	436
F. C. S. Schiller: *Problems of Belief*: G. GALLOWAY	440
C. A. Bennett: *A Philosophical Study of Mysticism*: J. W. SCOTT	443
E. S. Waterhouse: *The Philosophy of Religious Experience*: J. W. SCOTT	443
Aristotelian Society, Proceedings and Supplementary Vol., 1923: H. BARKER	451
L. Roth: *Spinoza, Descartes and Maimonides*: H. F. HALLETT	456
VIII.—New Books	460
IX.—Philosophical Periodicals	474
X.—Notes	478

PUBLISHED FOR THE MIND ASSOCIATION BY
MACMILLAN & CO., LIMITED,
ST. MARTIN'S STREET, LONDON, W.C. 2.

NEW YORK: THE MACMILLAN COMPANY.
Price Four Shillings and Sixpence. *All Rights Reserved.*

Yearly Subscribers will receive Mind *post free* from the Publishers on payment (in advance) of Sixteen Shillings.

JUST PUBLISHED, 7s. 6d. net

AUTOBIOGRAPHY OF

Rev. JAMES LINDSAY, D.D.

AUTHOR OF "GREAT PHILOSOPHICAL PROBLEMS" AND OTHER WORKS

WITH FRONTISPIECE PORTRAIT

WM. BLACKWOOD & SONS, Edinburgh & London

A THEORY OF KNOWLEDGE

By CHARLES AUGUSTUS STRONG

Author of *The Origin of Consciousness*

6/- net

In this book of 100 pages Mr. STRONG sets forth the conception of the nature of mind which, in his judgment, should underlie the defence of the theory known as "critical realism."

CONSTABLE 10 ORANGE ST. LONDON W.C. 2

Demy 8vo. **Buckram.** **25s. net.**

PROCEEDINGS OF THE ARISTOTELIAN SOCIETY. New Series.—Vol. XXIV.

CONTENTS.

I.—Scientific Objects and Common-sense Things. II. The Incidence of Mathematico-Physical Speculation on Philosophy. III.—On Certain Aspects of Scientific Thought. IV.—Sensation and Thought. V.—Human Intercourse by Means of Speech. VI.—Presuppositions of Philosophy. VII.—Discussion on "The Academic Mind." VIII.—Creative Morality. IX.—The Problems of Religion for the Modern Italian Idealists. X.—The Thomistic Outlook in Philosophy. XI.—Prayer: Psychologically and Metaphysically Considered. XII.—Make-Believe. XIII.—Sovereignty.

Demy 8vo. **Buckram.** **15s. net.**

CONCEPTS OF CONTINUITY.

Forming Supplementary Vol. IV. of the Proceedings of the Aristotelian Society.

CONTENTS.

Metaphysical and Religious Knowledge. Le Continu et le Discontinu. And Symposiums: I.—The Quantum Theory. II.—The Term "Law" in Psychology: What are its Implications? III.—Critical Realism. IV.—The Relation between the Physical Nexus and the Psychical Nexus of Successive Generations. V.—The Idea of Transcendant Diety.

WILLIAMS & NORGATE, LTD., 14 Henrietta Street, W.C. 2.

VOL. XXXIII. NO. 132.] [OCTOBER, 1924.

MIND

A QUARTERLY REVIEW
OF
PSYCHOLOGY AND PHILOSOPHY

I.—RECENT CRITICISM OF THE IDEALIST THEORY OF THE GENERAL WILL (III.).

BY J. H. MUIRHEAD.

III.

IN the first of these articles I tried to show that the doctrine of the General Will is not an isolated dogma but a particular application of the theory of the "concrete universal" as generally understood and I think accepted in current philosophy, and that criticism of it founded on the view that it is in any special sense "metaphysical" is self-condemned. Any theory that claims to be philosophical must start from some presupposition as to the nature of the individual. Theories differ primarily in the care with which they have scrutinised and found themselves able to justify these presuppositions. The theory in question is based upon a particularly trenchant criticism of that which underlies the strictures of its critics. To attempt to discredit it on the ground of its supposed consequences to the neglect of this criticism is, to say the least, an anachronism. In the second article I endeavoured in the first place to explain and justify the implied distinction between "actual" and "real" as applied to the Will; secondly to show in what sense the real will may be said to be embodied in society and its institutions and as so embodied, so far from constituting a threat to freedom, to constitute the substance of it. The rights of individuals are only safe in a community whose institutions embody and are supported by the idea of right in the minds of its members. Finally while admitting and emphasising the change which the multiplication of organised interests and social organs within the State and the extension of men's ideas as to the

possibility of new organs beyond it have wrought in our view of its place and powers, I claimed for the State a certain centrality as the condition in a peculiar sense of the integrity of human life. The present article is an attempt to show in short compass that from the side of consequences and as a constructive principle in politics, the theory of the General Will as above interpreted has nothing to fear but everything to hope from a comparison with that which starts from the assumption underlying the philosophy of its critics.

In an interesting passage in his book on *Social Theory*, page 93, Mr. C. D. H. Cole declares his whole-hearted adhesion to the criticism of the metaphysical theory of the State associated with Prof. Hobhouse and proceeds to take it as the point of departure for a diametrically different theory. To him as to Prof. Hobhouse the only reality is the actual will. The real will is at best an unknown quantity which may safely be left out of the question. "The content of actual wills we can know up to a point: the content of the real will we cannot know at all." If there is any talk of ultimates the ultimate is here. "Each man is a centre of consciousness and reason, a will possessed of the power of self-determination —an ultimate reality."[1] On the basis of an essentially individualistic metaphysic Mr. Cole goes on to develop his well-known theory of the State, in itself and in relation to other forms of association. The State is a territorial organisation. For the dwellers within its area it is a compulsory association. If we say that it rests on consent we merely mean the consent of "an effective proportion of the inhabitants of the area". It has no concern with the differences which distinguish one sort of its members from another. Economically it is an association of consumers, for production means difference and therefore must fall outside of its purview. Politically it regulates *persons* in so far as they are otherwise unassociated, for associations are centres of differentiation. From all this it follows that the function of co-ordination of the multitudinous different interests represented in the community, commonly made the head of the corner in theories of the State, does not belong to it at all. Seeing that it is only one among other associations, concerned like them with part of the life of its members,

[1] *Op. cit.*, p. 106. We may compare with this statement of the pure particularity of the "each man" that which occurs on p. 49, "every individual is in his nature universal". Individuality naturally merges into universality on a theory which makes both a blank. I do not say that individuality and universality are irreconcilable. What I say is that they require to be reconciled *so as to leave both standing.*

to assign it such a function would be like making a man a judge in his own case. Finally it follows from this conception of the nature of will that there can be no such theory as representative government in the political sphere for "no man's will can be treated as a substitute or representative of the wills of others".[1] Where some single function is concerned, as in an industry, representation under favourable circumstances may be possible; in a medley of functions such as is claimed by the modern State it is a mere source of confusion and *mis*representation. After reading these and other statements which seem to rule out representative government and with it democracy of any kind it is somewhat surprising to read that: "If the doctrine of a real will is accepted all arguments for democracy go by the board." Nevertheless I believe that Mr. Cole's political theory is in entire agreement with the metaphysical assumptions from which he starts; and that the main service that he and his coadjutors are at present doing consists in making their logical implications plain and in bringing home the difficulty of giving effect to them in social reconstruction.

Meantime it is unnecessary to follow the logic of this metaphysic further and I turn to the other—the stone which, whatever their other differences, these theorists are united in rejecting. I have already said enough to indicate what it is. The individual is not merely and therefore not essentially a centre of consciousness but a centre of concrete ultimately social interests. It is therefore possible to speak of him as a whole and, in the sense above explained, as willing the whole. What such an idea of concrete individuality involves in its completeness is indeed unknown to us. "We know not what we shall be." But we know sufficient to be able to judge by its standard the partial realisation of it that we find in ourselves and others, and to guide our practice. We may even be said to know far more of our real will than of our actual willings. For while the great interests of life stand out clear and steadfast, our particular actions too often come we know not whence and tend we know not whither. Be this as it may, when with this metaphysical correction we turn to the question of the nature and function of the State our logic leads us to very much the direct opposite of Mr. Cole's conclusions so far

[1] P. 103, *cp.* p. 105. "It is impossible to represent human beings as selves or centres of consciousness." Certainly, seeing that in terms of the definition of the self there is nothing to represent. It is not because there is too much but because there is too little to be represented that representation on such a theory is ruled out.

at least as its co-ordinating functions are concerned. What is primary and essential in it is just that it stands as no other form of organisation does for the whole circle of human interests including those which like art, science and religion pass beyond itself. There is nothing therefore more characteristic of it than its function of the protection of particular elements of human well-being against the tyranny of others: of the family for instance against the industrial order or of competing elements in either, *e.g.*, capital and labour, against each other. It is this comprehensiveness (whether looked at from the point of view of the different individuals and groups within it or from the point of view of the different interests in each individual) that remains, after everything has been said by way of criticism, the kernel of the theory. The State alone "reaches like wisdom from end to end"[1] and it does so none the less because the ends merge in something that escapes its grasp, and because it nourishes powers that take it beyond itself. Can this claim be made good against the form which the modern world as we have described it in the previous articles has assumed and is likely more and more to assume?

There is certainly nothing that contradicts it in the multiplication of new groups within the State. This is one of the signs of the time. As Mr. Cole eloquently puts it: "The fountain of association does not run dry and it is impossible to enumerate all those who come to drink of its waters."[2] I would merely add that this feature may be a sign of the health and strength of the State as well as, under particular circumstances, of its weakness and dissolution. Differentiation, Herbert Spencer long ago taught us, is a mark of organic growth which normally goes along with a corresponding integration. I know no reason why, provided there are the necessary guarantees of this "integrity," particular functions of the State should not be taken over by such associations. Personally, so far as I am a socialist at all, I am a guild socialist and should like to see large spheres of industry taken over and operated by the workers themselves. But the essential thing is *integrity* and I know no other form of association that under present conditions can undertake and enforce this except the State, however we may conceive it as organised in detail. I agree with the great majority of the critics of Guild Socialism as at present expounded that its advocates will have to satisfy us far more

[1] A phrase of Scott Holland's in *Our Neighbours*, p. 75.
[2] *Op. cit.*, p. 64.

on this head before we can regard ourselves as converts to its teaching.

What is true of social interests within the State is true also of those that pass beyond it. Some political pluralists, among them Mr. Bertrand Russell, have emphasised the limits which the self-protective instincts of States are apt to impose on freedom of thought, as illustrated particularly by their control of education.[1] I agree that liberty here as elsewhere has to be "daily won". But I do not think that anyone acquainted with our own educational system can in fairness maintain that the State has shown itself hostile or even indifferent either to the development of critical intelligence in schools and colleges or to the progress of political science among adults. Science, art and religion are indeed seed-plants of delicate growth and the State as an organ of compulsion can contribute little to them. But this cannot mean that it leaves them out of its ken or that they owe nothing to it. Taking the State in the entirely legitimate sense of society organised as a whole for self-expression these may be said to be in Bosanquet's words, "the fullest examples of true social activity, understanding that they are at once ultra-social as being above all compulsory group-arrangements and ultra-individual as being beyond the aspect of exclusiveness". "It is easy," he adds, "to grasp that in the profoundest sense it is this ultra-social and also ultra-individual level of life which represents the highest fulfilment at once of society and the individual."[2]

The questions raised by imperialism and internationalism are of a different order. "What is the one State to which a Canadian belongs?" asks Prof. Hobhouse. "Is it Canada or is it the British Empire?"[3] The point of the question is not clear. Is it suggested that the Canadian falls between two stools and that he belongs to no State at all? Because it is difficult to say precisely where what I have called the "guarantee of integrity" precisely resides, are we to conclude that there is none? The Canadian at any rate does not regard himself as an ἄπολις or stateless man because he recognises an allegiance both to the traditions and ideals of the Mother Country and to a Nation which, except in the matter of external protection and therefore (to a certain extent at least) of foreign policy, has assumed the full rights and duties of independence. If it be said that this is to

[1] See *Social Reconstruction*.

[2] *The Philosophical Theory of the State*: introduction to the second edition, p. xxviii.

[3] *Op. cit.*, p. 104.

admit that there may be two general wills which may be in conflict with each other and therewith to undermine the whole theory the answer has already been given. It is no part of the modern theory to maintain a unitariness which shall exclude difference. There are levels of generality and inclusiveness and even those loosely aggregated nations which we call our Colonies may recognise in the bond of the British Commonwealth at least a partial embodiment of the will to a common human good greater and more compelling than that embodied in their own national State. And with regard to conflict, as wisdom in the individual consists in harmonising the different levels of interest and desire, so in the community statesmanship consists in the endeavour to harmonise the claims of wider and narrower allegiances. If ever the time should come when Canadians had to choose between the British Empire and the Canadian State there is little doubt as to what the decision of the vast majority would be. But there is as little doubt that the State of Canada would thenceforth have to take account of an element in the general will or in the conscience of the nation, which could only be realised by some sort of *reunion* if it were only that which a League of Nations could supply.

Be this as it may I can find in these complications no substantial ground for the denial of "any unity of the will in the State except as an expression of a partial agreement for certain purposes".[1] It is a "partial" agreement in the sense that a man may not give up his soul for the State, for this would be equivalent to giving up the soul of the State whose end is the preservation of souls. With this reservation and in so far as it fulfils its end the State claims his whole allegiance as no other agreement does. It is an agreement for "certain" purposes but these purposes are embracive as those of no other institution are, including all that is implied in the "good life". We have outgrown the limits of the State to which Aristotle assigned this as the essential function. We have not outgrown the definition itself.

I have already anticipated what has to be said of the idea of an international society. Here again I find myself in entire agreement with much that has been said in criticism of the scepticism with which some idealists continue to regard this idea and such attempts to realise it as are represented by the League of Nations.[2] But the foundations of my belief in it and the inferences I draw as to its bearing on the State are different from theirs. Unless the whole move-

[1] Prof. Hobhouse, *op. cit.*, p. 107.

[2] See, *e.g.*, Hobhouse, *op. cit.*

ment seemed to me to have its roots in the deeper will of mankind to a harmonious adjustment of human interests and the relations that spring from these and to be bound in the end to express itself in a form of organisation fitted to secure this object, I should have little faith in its ultimate success. It may well enough be that in its present form the attempt is premature. There may be much spade work yet to be done in developing in the separate communities the mind and habits on which ultimate success depends. It was the wide field still open to them in this direction that so deeply impressed T. H. Green. He saw that "just so far as the perfect organisation of rights within each nation, which entitles it to be called a State, is attained, the occasions of conflict within nations disappear".[1] This is a simple and obvious fact which seems to me to be obscured by Prof. Hobhouse's polemic against Bosanquet's development of Green's thesis. It is true indeed that this pacific work within States would be greatly furthered if they could be delivered from the fear of external aggression and from the paralysing burden of armaments. But it is impossible to separate the will to universal justice and peace from the will of which the individual State is the organ, and in the last resort it is on the good will and the power of individual States to give effect to its conventions and decisions, that any international association must depend for its success. In all this there is no real division of will and purpose. If the League of Nations succeeds in its central aim of guaranteeing security to its members, it is only relieving them by their own free consent of one of the more elementary functions of States, so as to leave them free for their real work of developing their own material and spiritual resources. The corporate will to good remains the same. It "spreads undivided, operates unspent". What will have happened is merely that for one of the primary needs of society the forces of civilisation as a whole will have become available to replace those of the individual State.

In these articles (1) I have reviewed the chief forms in which the theory of the General Will has been held by idealist philosophers in this country. (2) I have noticed the chief criticisms by which it has been attacked. (3) I have tried to bring out, in the light of these criticisms, the fundamental difference that divides believers in the reality of the General Will from their critics. It is not that the former

[1] *Works*, II., p. 481.

are metaphysical the latter are not. Both work from metaphysical conceptions as to the nature of individuality. The difference is in the quality of the metaphysics. The reason why I think that of the former to be a better metaphysic is that it is more inclusive. It admits what the other insists upon but it adds something that the other either overlooks or denies. (4) I have tried further to show that this addition does not bear the sinister import which the critics have attributed to it. On the contrary, it closes the doors to consequences that, it seems to me, would be fatal to all corporate life and the very being of the modern State. (5) Finally, I have tried to show that the general theory is not only harmonisable with recent developments in political experience and organisation but provides the only means of interpreting their real significance for human well-being.

I am far from maintaining that the theory, in the form in which I have tried to state it, is free from difficulty. Not the least of its values to me is that it raises new problems. I have mentioned, but have had to leave over, the great problem of Democracy. To mention only one other, perhaps, the greatest: What, it may be asked, is the relation of the General Will as thus interpreted to the Divine Will? This is a difficulty which attaches not to our theory alone, but has to be met by any theory that speaks of will at all as a factor in the constitution of the universe. I do not propose to enter on its discussion here, I will merely add that it is a problem the solution of which seems to me not to be made easier but on the contrary to be rendered impossible by the denial of the immanence in individuals and societies of a will to good which however it may fail to find expression in act is that which links them with what is most real in themselves and in the world.

II. MR. JOHNSON ON THE LOGICAL FOUNDATIONS OF SCIENCE (II.).

By C. D. Broad.

(B) Causation.—So much has necessarily been said about causation in dealing with the Continuant that we can afford to be reasonably brief. The notion of Causation is introduced in the chapter on *Fact and Law* with which the book begins. Mr. Johnson at once rejects two fairly popular opinions. The first is that the assertion "p determines q" is really a statement about our minds, *viz.*, that whenever we characterise anything as "p" our minds are determined to characterise it further as "q". This Mr. Johnson calls a purely "epistemic" view of causation. He himself holds what he calls a "constitutive" view, *viz.*, that there is a relation of a peculiar kind between the fact of being characterisable as p and the fact of being characterisable as q, and that this holds regardless of minds. It seems to me that Mr. Johnson is here hardly using "epistemic" and "constitutive" in his usual senses. On the theory which he rejects there is a real relation of causal determination, only it is supposed to be confined to certain states of mind. On the theory which he accepts this same relation holds also between events which are not states of mind. I should hardly have thought that a mere difference of opinion about the *range of application* of a relation whose *existence* is apparently admitted by both parties could be accurately described as a difference between a constitutive and an epistemic view of causation.

The second view which Mr. Johnson rejects is roughly the theory that causal laws are just statements of *de facto* regularities. He distinguishes between such propositions as "Anything that was p would be q" and "Everything that is p is q". The former he calls "Universals of Law," and says that they express "nomic necessity". The latter he calls "Universals of Fact". The former imply the latter, but are not equivalent to them. A "nomically contingent" proposition is of the form "A thing might be p without being q," and this must be distinguished from the particular factual proposition "Some p is not q". Now causal laws are

universals of law and are nomically necessary. The need for this distinction is perhaps most clearly brought out in I. § 5. In the first place, the belief that if p were to happen q *would* happen is often the reason why p never does happen, and therefore why the factual universal "No p is non-q" is true. Thus, it is commonly believed that "if a person *were to* go to a Royal garden-party in bathing-drawers he *would be* turned out"; and it is for this reason (among others) that no-one *does* go in that costume; whence it is true that "no-one goes so attired and fails to be turned out," which is the corresponding factual universal. Now, if the general *belief in x* is what causes y to *to be true* it can hardly be maintained that x and y are the same proposition. Secondly, we assert such propositions as "if the molecules of a gas had no extension it would accurately obey Boyle's Law". And we know that there are no gases of which this is true. Now the corresponding factual universal would be (when stated in negative terms) "No gas both has unextended molecules and fails to obey Boyle's Law". This is of course true, since it is implied by the proposition "No gas has unextended molecules". But the latter proposition equally implies the factual universal "No gas both has unextended molecules and fails to *disobey* Boyle's Law". There is no inconsistency between these two factual universals, and they are both true. But there certainly is an inconsistency between the two propositions "If a gas had unextended molecules it would obey Boyle's Law" and "If a gas had unextended molecules it would disobey Boyle's Law". Hence it seems necessary to distinguish between the universal of law and the corresponding universal of fact.

What Mr. Johnson does not seem to bring out very clearly is the connexion or lack of connexion between nomic necessity and logical necessity, *e.g.*, between the kind of necessity which belongs to the proposition that "if a billiard-ball were hit it would move" and the kind of necessity which belongs to the proposition that "if all S were P all non-P would be non-S". Dr. McTaggart apparently identifies the two, and a discussion of the subject by Mr. Johnson would have been interesting. I can find only two passages which seem to throw light on his view of this question. In I. § 4 he says that a nomic proposition "expresses a relation between the characters p and q indicative of the nature of the world of reality". In VI. § 3 he draws a distinction between causal laws and "Formal Universals". Under the latter head he includes the laws of kinematics and the whole of geometry. Formal Universals are laws which apply to space, time, and motion as such, apart from any

question of their concrete filling. They do not apply to existents, if by an "existent" you mean "whatever is actually or potentially manifested in space and time". On the other hand, causal laws apply to the concrete filling of space and time; they presuppose formal universals, but the converse does not hold. It is clear from these passages that Mr. Johnson means to restrict the *subject-matter* of nomic propositions to occurrents and continuants. But this still leaves it uncertain whether he supposes the *necessity* which characterises the nomically, the formally, and the logically universal to be the same or different.

To understand the details of Mr. Johnson's treatment of causation it is necessary to notice his distinction between "cause-factors" and "a completed cause" and "effect-factors" and "a completed effect". He holds that the occurrence of any characteristic is causally determined by a *finite* number of other characteristics. *E.g.*, suppose that something in fact has the character e. Then it is certain that there is a finite set of characters, say $c_1 \ldots c_n$, possessed by this thing, and such that anything which had this set of characters would also have e. But it may be that a thing which has $c_1 \ldots c_m$ without $c_{m+1} \ldots c_n$ need not have e, and it may be that the former sub-set can occur without the second. A cause-factor or an effect-factor is apparently a single characteristic. A completed cause of a given effect-factor e is a set of characters $c_1 \ldots c_n$ such that anything that had this set would have e also. A completed effect of a given cause-factor c is a set of characters $e_1 \ldots e_n$ such that anything that had this set would have c also. (I. § 4 and V. § 1.)

With these definitions it is obvious that there can be plurality of completed causes relative to a given effect-factor and plurality of completed effects relative to a given cause-factor, for this merely amounts to saying that we cannot simply convert an A-proposition. (V. § 3.) It does not in the least follow from this that causal laws in terms of *completed* causes and *completed* effects cannot be stated in a reciprocal form. By a process of gradual modification at both ends we may get from an irreversible law, such as "Anything that was $c_1c_2c_3$ would be e_1" to a law of the form "Anything that was $c_1 \ldots c_n$ would be $e_1 \ldots e_m$ and anything that was $e_1 \ldots e_m$ would be $c_1 \ldots c_n$". (V. § 6.) In fact Mr. Johnson holds that we have not got a causal law properly stated until the following conditions are fulfilled:—(1) All the cause-factors are independently definable and variable; (2) All the effect-factors are so too; (3) None of

the effect-factors can be inferred from any selection less than the whole of the cause-factors, and none of the cause-factors can be inferred from any selection less than the whole of the effect-factors. When these conditions are fulfilled the causal law is reversible.

It will be noticed that in this discussion on Plurality in V. Mr. Johnson does not give any rule for distinguishing a cause-factor from an effect-factor. If the characteristic with which you start is to be called a *cause*-factor then the set of characteristics which together imply it is to be called a completed *effect;* if it is to be called an *effect*-factor then the set of characteristics which together imply it is to be called a completed *cause;* but why it is to be called a cause-factor in some cases and an effect-factor in others Mr. Johnson does not here explain. The discussion of this point is carried a little further in VI., and runs as follows. Some philosophers have made the cause a property of a continuant and the effect an occurrent. An example would be if we said that gravitation caused the fall of the Campanile. On this interpretation, of course, there is complete lack of homogeneity between cause and effect. (VI. § 2.) But Mr. Johnson holds, quite rightly, that the causal relation is primarily between occurrents (*ibid.*), though he maintains that these occurrents must be located in certain specified continuants and that the properties of these continuants must be mentioned in any complete statement of causation. (VI. § 4.) Since the completed cause and the completed effect *both* involve the three factors of occurrent, the continuant to which it belongs, and some property of this continuant, it is clear that they cannot be distinguished by the different nature of their constituents. Moreover, Mr. Johnson explicitly says that cause and effect are not *epistemically* distinguishable. The cause can be inferred from an adequate knowledge of the effect just as well as the effect can be inferred from an adequate knowledge of the cause. And he admits that it remains a serious question whether there is anything left by which cause and effect can be *ontologically* distinguished. (VI. § 2.)

The question has to be dealt with separately for transeunt and for immanent causation. For the former I think that Mr. Johnson's solution is as follows. Transeunt causation always requires two continuants C_1 and C_2 in some specific relation R to each other. When this relation has been established between C_1 and C_2, the state of C_2 (say) which immediately follows differs in some assignable way from what it would have been if C_2 had been left to itself. We then

call the establishment of R between C_1 and C_2 a *cause*-factor in this transaction; and we count the divergence of C_2's immediately subsequent state from what it would otherwise have been as the *effect* of this. Of course at the same time C_1's state may be modified by the establishment of R between C_2 and C_1. But this introduces no difficulty; it is simply a case of reciprocal transeunt causality. (*Introd.* § 7.)

Now, so far as I can see, in all cases where there is a difficulty in distinguishing between cause and effect Mr. Johnson has to appeal in the end to transeunt causality. Two cases arise over immanent causality. (1) We may have simultaneous immanent causality. Mr. Johnson illustrates this from the gas-law, $pv = Rt$, where p, v, and t, stand respectively for the pressure, volume, and temperature of a given mass of gas, and R is a constant. Which of these are you to call the *cause* of the rest? "So long as we are concerned only with immanent causality there is absolutely nothing to determine which . . . is to be called cause and which effect." (IX. § 4.) Mr. Johnson's solution is as follows. The whole process must be analysed into three stages, of which two are transeunt and one is immanent. He begins by distinguishing between the *external* pressure, volume, and temperature—p_e, v_e, and t_e—and the corresponding *internal* variables—p_i, v_i, and t_i. The former are the weight on the piston, the volume of the container, and the temperature of its walls. The latter are the reaction of the gas on the walls, and its volume and temperature. Suppose now that the experimenter arbitrarily modifies p_e and v_e by pressing down the piston. Then the whole causal process must be analysed as follows. (*a*) An inward transeunt process in which the internal pressure and volume are modified according to the laws $p_i = p_e$ and $v_i = v_e$. (*b*) An immanent process in which the internal temperature is modified in accordance with the law $t_i = p_i v_i / R$. (*c*) An outward transeunt process in which the external temperature is modified in accordance with the law $t_e = t_i$. Now in the transeunt processes there is no difficulty in saying which is cause and which is effect. The arbitrary change of external pressure and volume is the cause in the first, and the change of internal temperature is the cause in the second. Mr. Johnson's rule is that in the immanent process those factors must be taken as *causes* which are *effects* in the previous transeunt process, and those must be taken as *effects* which are *causes* in the subsequent transeunt process.

(2) In XI. § 5 Mr. Johnson goes further and asserts that it would be impossible to draw a distinction between cause

and effect in purely immanent causation, even when it is successive, and not simultaneous as in the case just considered. We all believe that ontologically the earlier parts of the history of a continuant determine the later parts and not conversely. Yet there would have been nothing to suggest this to us if all causation had been immanent; for, with an adequate knowledge of the nature of a continuant we can infer backwards just as certainly as forwards in its history, so long as it is left to itself. As it is, however, "an immanent process of causality may be broken in upon from without by an influence which modifies the succeeding manifestations. . . . After the interruption the relation of the succeeding to the preceding is objectively differentiated from that of the preceding to the succeeding." (XI. 6.) I must confess that I do not clearly understand this. Take, *e.g.*, a moving billiard-ball which hits a cushion and rebounds. Consider two successive stages x and x' in its course before the impact, and two successive stages y and y' in its course after the impact. Then (*a*) x' can be inferred by a purely immanent law from x, and conversely. (*b*) y' can be inferred from y by a purely immanent law, and conversely. (*c*) Neither x nor x' can be inferred from y or y', nor conversely, by a purely immanent law. But (*d*) y or y' can be inferred from x or x' together with a knowledge of the impact; and equally x or x' can be inferred from y or y' together with a knowledge of the impact. I really cannot see where the "objective differentiation" comes in in all this; everything seems to be perfectly symmetrical.

The only other points that I need mention in Mr. Johnson's doctrine of causation are the following. (1) In successive causation we must not suppose the cause and the effect to be momentary events. They are events of finite duration which are adjoined at a common temporal boundary. Thus the typical statement would be: "The change from A to B causes the change from B to C". (VI. § 6.) (2) In transeunt causation the cause and the effect are always simultaneous. (XI. § 5.) *E.g.*, I suppose, that a weight does not have to stand on a table for any finite time before the upward reaction of the table upon it begins. Immanent causation may be either simultaneous or successive. (3) In transeunt causation the cause and the effect always have to stand in a certain peculiar relation which is not temporal. In physical affairs it is a spatial relation, such as contact. What precisely it is in psycho-physiological causation Mr. Johnson does not distinctly tell us.

(C) The Logic of Problematic Induction.—The validity

of all science, according to Mr. Johnson, rests on certain "postulates". These are propositions which are accepted assertorically and not merely hypothetically, which are nevertheless not self-evident nor capable of inductive proof, and which involve concepts (such as cause and substance) which are "not given in experience". These postulates enter even into the singular perceptual judgments which form the materials that science generalises. (*Introd.* § 3.) Whether Mr. Johnson thinks that any further postulates are needed for generalisation, which do not enter into singular perceptual judgments, and, if so, what they are, is not clear to me.

In inductive generalisation we start by observing certain instances which have some determinate value of P and some determinate value of Q. We then want to know whether All P is Q or All Q is P. The question which of these two generalisations we shall seek to make is determined by whether we have already found that Some P is not Q or that Some Q is not P. Let us suppose that we have found the latter and not the former, so that we are seeking to establish that All P is Q. The kind of evidence that we need is the following. In the first place we confine ourselves to a single determinate p_1 under the determinable P, and we try to observe as variable a collection of instances having p_1 as possible. Suppose we find that they all have a certain determinate value q_1 under the determinable Q. We next examine in turn sets of instances having the determinates $p_2, p_3 \ldots p_n$. We will suppose that all the members of each such set are found to have a certain determinate value of Q, and that these values differ for each set. They might be $q_2, q_3 \ldots q_n$. As we have said, within each set we shall try to vary the instances as much as possible. On the other hand, as between any two sets we want as little variation as possible in all other respects except the values of P which distinguish them. Our observational data are now of the form All observed p_1 was q_1 and All observed p_2 was q_2 . . . and All observed p_n was q_n. The corresponding generalisation will be of the form All p_1 will be q_1 and All p_2 will be q_2 . . . and All p_n will be q_n. Now the vitally important point to notice is that the *whole* of the first set of facts is the evidence for *each separate constituent* of the generalisation. Our evidence for believing that all water will boil at 100° C. at normal pressure is not simply that all observed *water* has boiled at *this* temperature, but that all samples of each chemical compound which have been observed (*e.g.*, alcohol, ether, chloroform, etc.), have been found to have a characteristic boiling-point under a given pressure. I do not think that

this point has ever been brought out so clearly as it is by Mr. Johnson's notation. A second feature to notice is that the evidence falls into two parts, *viz.* (*a*) that constancy in P is accompanied by constancy in Q in spite of variations in other factors, and (*b*) that variation in P is accompanied by variation in Q in spite of constancy in the other factors.

On the logical relevance of number and variety of instances Mr. Johnson takes very much the same view as Mr. Keynes. We have to remember that P may be a complex group of determinables ABCD. The great danger of inductive generalisation is the following. All the observed instances that were q_1 may have had *abcd* in common. We may omit to notice *d*, or may notice it and treat it as irrelevant. In that case we are likely to put our generalisation in the form All that is *abc* is q_1. And this may be too sweeping; the proper form being All that is *abcd* is q_1. Strictly, we shall only be safe if we put into our subject *all* that is common to the observed instances. But this is not practicable, and we have to distinguish as best we can between relevant and irrelevant common features. The object of choosing as variable instances within a set as possible is to reduce the common features which we do not include in our subject as much as we can. And the only object of multiplying instances within a set is the *hope* that we shall thereby reduce the common features, even where we cannot be positively *sure* that we are doing so. Mr. Johnson points out that the fact that all the observed instances have fallen into a certain restricted region of time or space may be relevant; not because absolute position in space and time is relevant in any causal law, but because all the instances that fall into such a region may agree in their close spatio-temporal proximity to some particular causal agent, and this fact may be highly relevant.

The following remarks may be made here. (1) This shows the practical futility of Mr. Keynes's form of the "Uniformity of Nature". (2) In *all* inductions our observations have in fact been confined to a comparatively small region of time and space. Indeed the temporal limits are ridiculously small, since they are determined by the length of human tradition up to date. This should make us very doubtful of inferences about the remote past or future based on inductive generalisations. (3) We always start an enquiry with pretty definite views about what is likely to be relevant to what. These are based on past experience. Where we lack this basis, as *e.g.*, in Psychical Research, we can attach very little weight to our inductions. (4) Relevance is a matter of degree. The more

minute the phenomena that we are investigating and the more accurate we want to make our results the less we can afford to treat as irrelevant. (5) There have been certain features, such as the fixed stars and the present constitution of the solar system, which have been present in all human observations and cannot be varied by us. We therefore cannot tell whether they may not be relevant to all our laws. This does not matter very much when we are predicting only a little way ahead; but it makes predictions to very remote periods, when the structure of the solar system and the positions of the fixed stars may be very different, highly precarious. (6) Mr. Johnson does not apparently discuss another source of weakness which Mr. Keynes notices, *viz.*, that we may put more than we ought into the predicate of our generalisation, and conclude, *e.g.*, that All P is XYZ when we ought only to conclude that All P is X.

It remains to consider the detailed theory of "Eduction" which is put forward in IV. and in the Appendix. From such a premise as "Certain things which are m are p" the first step that one can take is to "A certain further thing which is m (*e.g.*, the next one that I meet) will also be p". This is *Eduction*. The next step is *Induction;* but it branches into two forms according to the nature of the original premise. If *all* the observed things which were m were p, we may proceed to the *Pure Generalisation* that all things which are m will be p; but, if only a certain proportion of the observed things which were m were p, we can only proceed to the *Statistical Generalisation* that such and such a proportion of things which are m will be p. (I have invented the last two terms, because something has evidently gone wrong with Mr. Johnson's nomenclature. What he calls "Appendix on *Eduction*" is not mainly on Eduction, as defined by him in IV. § 1, but is rather on the special kind "inductive inference whose conclusion is class-fractional" (IV. § 3), which I have called "statistical generalisation".)

In IV. he considers eduction from premises all of which are favourable. The typical argument has three premises and two middle terms, one substantival and the other adjectival. It may be put as follows:—

s is characterised by $p_1 \ldots p_m$
$p_1 \ldots p_m$ characterise $s_1 \ldots s_n$
$s_1 \ldots s_n$ are characterised by p
Therefore s is characterised by p.

Mr. Johnson argues, rightly I think, that there is no "pure induction" and no "pure analogy". One can only say that

some arguments are more of one type and some more of the other type. The most purely analogical argument must introduce at least two substances which are known to agree in a number of characters; and the most purely inductive argument must introduce at least two characters which are known to belong to all the instances examined in the premise. Mr. Johnson also works out in elaborate detail the three kinds of negative evidence that are favourable to an eduction. There is no need to excite ourselves over these, for a little reflexion and manipulation will show the reader that they can all be reduced to the form already given, provided we are allowed to introduce negative characteristics and to substitute for "s is not characterised by p" the equivalent "s is characterised by non-p".

Suppose now that we have a set of premises of the kind mentioned above. Then the addition of a further substantive s_{n+1} which has all the m predicates strengthens the conclusion if and only if it has some characteristic which all the others lack (or lacks some characteristic which all the others have). If we allow negative characteristics it does not matter which alternative we adopt; Mr. Johnson adopts the latter. (It is evident that we shall have to define what we are going to mean by a "characteristic," or this condition will become trivial. I think we shall have to exclude disjunctive characteristics, for instance.) Again, the addition of a further characteristic p_{m+1} which belongs to all the n substantives strengthens the conclusion if and only if it be nomically possible for all the rest to characterise a substantive without this one. (Here I am again departing from Mr. Johnson's actual statements. He says that it is necessary that there shall *be* a substantive which has all the other characteristics and lacks this one. I cannot see that this *factual particular* needs to be true, provided that the corresponding *nomic contingency* holds. If I am right Mr. Johnson has here overlooked his own distinction. But, as his rule is more rigid than mine, no practical harm would come from following it.)

A set of characteristics such that no selection from it causally determines the rest may be called an "Independency". (I am again modifying, as above.) A set of substantives, such that any one of them has (or lacks) some characteristic which is lacked (or had) by all the rest may be called a "Variancy". We may say then that an eductive argument is not in its correct form unless the substantival middle term is a variancy and the adjectival middle term is an independency. It will not be positively fallacious if these conditions be not fulfilled, but it will appear to be stronger than it really is.

About the Appendix all I can do is, with the utmost respect to Mr. Johnson, to parody Mr. Hobbes's remark about the treatises of Milton and Salmasius: "Very good mathematics; I have rarely seen better. And very bad probability; I have rarely seen worse". The subject is too technical for discussion here, and so many friendships have been wrecked on Bernoulli's Theorem and its Converse that I will content myself with saying that I am bound to reject Postulate I. on page 183, where Mr. Johnson assumes equi-probability of *ratios* instead of equi-probability of *constitutions*. I know that he has done this with his eyes open, and I must leave him to his colleague at King's. I fear that the High Table there will be rent with dissension over this business. Granted Mr. Johnson's postulate his conclusions follow, and the bit of mathematical reasoning which leads to them is extremely beautiful.[1]

(D) APPLICATION OF THE NOTION OF CAUSE TO MINDS.—Mr. Johnson accepts what he calls "impartial dualism," which he considers to be the view of unsophisticated common-sense. He thinks that it cannot be proved, but he is sure that all the objections that have been brought against it are fallacious, and that no satisfactory alternative theory has been propounded. Here I wholly agree with him. This view consists in holding that certain mental events have purely mental causes; that certain physical events have purely physical causes; and that there are certain "critical points" at which we have physico-psychical or psycho-physical causation, *viz.*, when a stimulus produces a sensation or a volition produces a movement. He points out that the word "parallelism" is ambiguous. In its scientific sense it *asserts* that every mental event has a neural accompaniment, and conversely. In its philosophic sense it *denies* that there can be any causal relation between the two orders. The grounds for these two forms of parallelism are quite different; and denial of interaction is the very last thing that would be suggested to an unbiassed mind by the assertion of one-one correlation.

The average scientist does not really accept philosophical parallelism, but he also does not accept common-sense dualism. What he really holds is one-sided interaction of body on mind. He does not believe that one state of mind

[1] Mr. Johnson has lately given up this postulate; substituted a much more plausible one for it; and deduced from the new postulate, by an admirable piece of mathematical reasoning, substantially the same results as he reaches in the Appendix. Unfortunately I cannot accept the new postulate on reflection, though it looks harmless enough at first sight.

directly causes another; or that a state of mind directly causes a bodily change; neural processes are supposed to determine each other, and each link in this neural chain is supposed to produce a causally isolated mental state. The *appearance* of causal connexion between the mental states of such a series is supposed by the average scientist to be a mere result of the *real* causal connexion between their neural counterparts.

Now Mr. Johnson does not attempt directly to refute this view. He contents himself with arguing (1) that it is inconsistent with a genuinely *impartial* scientific parallelism; (2) that certain facts which are alleged in favour of epiphenomenalism are consistent with (and perhaps require for their full explanation) the action of mind on body; and (3) that scientific parallelism is probably false except in a very restricted sense. The first point is this. The immediate causal conditions of the stimulus which produces a sensation are purely physical in many cases. Impartial parallelism would suggest that the immediate causal conditions of the volition which produces a bodily movement are purely psychical. (*Introd.* § 10.) We should then have to suppose that in sensation the neural events determine each other and also a series of causally disconnected sensations, whilst in a process of deliberation the psychical events determine each other and also a series of causally disconnected neural changes. This view is not in fact held by Mr. Johnson, because he thinks that "a volition is caused . . . by such purely psychical processes as feeling, desire, knowledge, and thought, to which there are no neural or physiological correspondents". But it is the view which he would take if he were a complete scientific parallelist. (*Introd.* § 10.)

The second point seems to come to this. Suppose we consider a series of events which starts with a physical stimulus and ends with a bodily movement. Common-sense would say that the stimulus causes a sensation, the sensation a volition, and the volition a movement. The scientist would be inclined to say that the really effective links are the neural correlates of these psychical states. Mr. Johnson argues (*Introd.* § 11), so far as I can understand, that this might be admitted and yet it might be necessary to hold that mind acted on body. Different people react differently to the same physical stimulus, and they react differently at different times in their lives according to the experiences that they have had. We may say, no doubt, that this is due to the presence of *traces*, and we may hold that these traces are *now* purely physiological. Nevertheless, it may well be that they would

not have been formed at all if mind had not acted on body in the past. Thus, Mr. Johnson's position appears to be that, whilst the *proximate* causal explanation of such "behaviour-cycles" may require nothing but physical and physiological states and laws, the *existence* of some of these physiological states requires for its explanation the past action of mind on body. It is perhaps worth while to point out that this defends the popular view, that mind acts on body, only by radically transforming it. The popular view is that mind acts on body in the course of *each* voluntary action and determines *this particular movement;* the amended view is that mind *has acted* on body in the past, and has determined not a particular movement, but a *relatively permanent disposition.*

The third point is discussed at length in Chapter VIII., particularly in § 6. Mr. Johnson uses the word "sensation" in much the same way as I use the word "sensum" and he assumes without discussion that "sensations" are mental occurrents. I will continue to use the word "sensum"; in stating his position. His view is that there is probably parallelism between sensa and neural processes, in the sense that the latter "can be described in terms of the same number of distinct determinables" as the former. But "there are other psychical phases to which no changes of neural process correspond". These are cognition and feeling, which "may be provisionally defined as . . . variable relations or attitudes towards sense-experiences". (VIII. § 2.) The argument for this view is roughly the following. Everything that can be said about the qualities or relations of neural events is needed to account for the qualities and relations of sensa; and so nothing is left in the neural events to correspond to the various cognitive or affective attitudes which we may take towards sensa. Take, *e.g.*, two sensa in the visual field. Presumably each has some perfectly determinate shade of some colour, and they stand in some perfectly determinate spatio-temporal relation to each other. Now we can well believe that there is some specific difference (*e.g.*, in rate of vibration) between the neural correlates of these two sensa, and that this is correlated with their difference of shade. We can also believe that the spatio-temporal relation between the two sensa is correlated with that between the neural disturbances. But we must remember (*a*) that we may cognise the actual shades of colour and the actual spatio-temporal relations of these sensa with any degree of determinateness, and (*b*) that we may take up towards them feelings of various kinds and of any degree of intensity.

What is there left in the neural correlates to the sensa to account for the particular one of these attitudes and the particular degree or intensity of it which we in fact take up? (VIII. § 6.)

This argument does not seem to me very impressive. No doubt it shows that the neural correlate of a sensum having such and such qualities and relations cannot *also* be the neural correlate to our more or less determinate beliefs about this sensum and our more or less intense feelings towards it. But it leaves it perfectly possible that *elsewhere* in the whole neural situation at the time there is a correlate to these mental processes also. Mr. Johnson seems to see this perfectly obvious objection at the beginning of VIII. § 3. But he at once diverges into an elaborate discussion of "the experience of effort or strain," which, however interesting and important it may be, seems to have no direct bearing on this question. And, so far as I can see, he never gets back to this point. I agree with Mr. Johnson that there is not the faintest reason to suppose that there is a detailed neural correlate to all our mental states, and that the only place where there is decent evidence for it is sensation; but I do not think that his argument for this conclusion would persuade many people. Mr. Johnson holds that the belief that all mental processes have a neural correlate is largely due to the common confusion between thinking and having images. People hold, probably correctly, that there is a neural correlate to imagery and to association. No doubt the laws of association will account for the fact that the word "*red*" rises to my lips or its image to my mind when I see a red thing. But there is a difference between merely ejaculating "Red!" and thinking of it as the name of a quality which characterises a certain object. Neural process may suffice to explain why certain words, sensible or silly, come to be spoken or imaged on certain occasions; but what neural process is correlated with the act of understanding the meaning of a word or sentence?

It remains to say something about Mr. Johnson's analysis of the psycho-physical causation which is involved in voluntary action. In the first place he draws a very interesting logical distinction between two different ways in which we may get knowledge of causal determination. In some cases, he thinks, we start by observing a great deal of regularity, and end by inferring causal connexion from it in each individual case of the kind observed. In other cases we start by observing causal connexion in the individual instance, and precariously argue from this to regularity in the class.

Now he holds that the determination of our voluntary decisions is of the latter kind. "By direct introspection I feel assured that I can assign the cause of any one of my acts of will; but it is only with considerable doubt that I should venture to formulate rules in accordance with which I invariably act. In virtue of this assurance I maintain that in willing I am . . . *determined*, because my volition is not uncaused, *free*, because the immediate determinants of my volition are within my own consciousness." (*Introd.* § 12.)

This seems to me an extremely bold claim to make for introspection, in view of the possibility of mental states which cannot be introspected and which may influence my decision. It is interesting to compare it with the alleged immediate evidence of indeterminism, which Sidgwick and others have asserted. I should have thought that the latter *claim* was much more plausible than the former, though I do not think that it is irreconcilable with the *fact* of determinism, if it be a fact. Mr. Johnson carries the analysis of voluntary decision further in VIII. § 9. His view is that in ordinary non-moral decision there is a conflict between desires which we simply watch till it is settled. In other cases we actively interfere by modifying the strength of the attraction and repulsion of various factors in the alternatives. This is always done by a process of selective attention; the more determinately we know any alternative the more strongly the originally attractive features attract and the more strongly the originally repulsive features repel us. People claim to be free in this special sense that they can modify the strength of their primary desires by selective attention. This claim is perfectly just, but it is quite compatible with determinism, since the direction of their attention is also determined by desires. The only criticism that I have to make on this is that I should have thought that it often happened that the more determinate knowledge of an originally attractive alternative *weakened* its attraction or changed it into repulsion, and conversely for an originally repulsive alternative.

So far we have been considering the purely psychical causation which leads up to voluntary decision. There remains the transeunt process by which decision passes into action. According to Mr. Johnson, the transition from one order to the other is marked by the experience of *effort*. This is a genuine sensation with a specific intensity and character and a definite neural correlate. Its neural correlate is the immediate effect in the brain of the decision in the mind. Thus it differs from all other sensations in that its

"stimulus" is mental and not physical. And its other peculiarity is that it leads, by ordinary physiological and physical causation, to effects which were intended by the agent. Thus we have two causal orders to consider:—(*a*) Foresight of external change determines voluntary decision which determines neural change. (*b*) Neural change determines (*a*) by physio-psychological causation a sensation of effort, and (*β*) by physiological causation the foreseen and desired result. The external result is remote, but foreseen by the agent. The internal result is immediate and appropriate, but unknown to the agent.

It is needless for me to praise a book which will obviously become a classic. To the professional logician and metaphysician Mr. Johnson's work is of course indispensable. To the psychologist it offers certain passages which he will do well to read and ponder. And the intelligent scientist who wants to see the best statement which has ever been made of the concepts and postulates which he uses daily, and who is willing to give to a pretty stiff book the same attention which he would bestow on a masterpiece in his own subject, may be most strongly recommended to devote his leisure to this work.

III.—TRUTH AND PURPOSE.

By Alfred Sidgwick.

Science and common sense are in the habit of connecting the notion of truth with that of value for inference, so that even when a judgment admittedly suffers from some slight inaccuracy it does not thereby stand totally condemned; discrimination is made between the occasions on which it will suffice for a purpose and those on which it becomes misleading. Science is considerably more careful than common sense in this discriminative operation, but both adopt the principle of accepting a truth for what it is *worth*.

Philosophy on the other hand, so far as it can be contrasted with science, aims at a higher conception of the nature of truth. In the name of philosophy we are tempted to be impatient with the supposition that human purposes have anything to do with the recognition of truth, except as sometimes obstructing it. We claim perhaps to be searching for something better than practical makeshifts or merely approximate truths. How, it is asked, can our purposes or even our vital needs affect the realities of the universe? Truth is surely truth whether we happen to know it or not, whether we happen to like it or not, and whether or not we propose to make any use of it. To recognise a truth is one thing and to explore its practical consequences is another. In short, while common sense and science think of truth as a means of predicting consequences, philosophers—or at least some who set up a claim to be specially and distinctively philosophical—do their best to rise above these limited mundane considerations.

When we look into their method, however, there seem to be some relevant questions that ought to be asked about it. For instance, while not disputing that reality is reality and that truth is truth, we may ask whether reality and truth are precisely identical things. Of course we can make the words identical by definition and thereby reduce the issue to a merely verbal one. But if we are interested in the real question there remain certain difficulties which have to be faced. For instance, when we speak of 'truth' do we mean truth which is recognised as such, or truth which is independent of human

recognition? While there may be no harm in identifying truth in the latter sense with reality, we cannot identify recognised truth with reality until we have a criterion by which truth can be recognised beyond any shadow of doubt.

It is easy, and may be harmless, to identify unrecognised truth with reality, but does it lead to anything? It seems to amount to saying that Something is true, though we know not what; and this can hardly be dignified as a theory of truth, however well it escapes condemnation as having 'merely practical' value. Evidently, unrecognised truth cannot expect to be judged by any criterion, for this would deprive it of its quality of being unrecognised. So long as a truth remains unrecognised, its existence and its non-existence are the same for us.

On the other hand if 'truth' is to mean recognised truth, it becomes of the first importance to know whether we have or have not any perfect criterion. There are some philosophers, even in recent times, who think it worth while to attempt to find one, but their results so far have been confessedly disappointing. No doubt this confession is often grudgingly made and comes only at the end of a long effort to avoid its arrival. But in one form or another it always does arrive. In order to put the best face on the failure we are then sometimes told that though no positive result has emerged "a positive result may be bought at too great a cost"; or, at other times, that "error, in the sense of one-sided and partial truth, is necessary to our being". Now if error, in this sense, is necessary to our being, what are we to do so long as we care to remain alive? Evidently we must accept the conditions of life, and among them the absence of perfect certainty in answering any question, whether philosophical or not. A sense of the conflict between recognised truth as it is and as it ought to be is with us all continually. It is felt not only by philosophers but also by those who are under the sway of "the coarsest prejudices of popular thought," for we can all believe that some other people have coarser prejudices than our own. Given an absolute criterion we could then proceed to condemn all lapses from the perfect standard; but in the confessed absence of it, what are we to do?

To meet this difficulty we have before us a suggestion, for what it may be worth, that, though absolute truth is out of our reach, truth *for a purpose* is attainable by the method of limiting and defining our purposes; and that this method gives us the best criterion we can at present expect to have. It involves the assumption that every recognised truth, as

such, has a value for inference. If we accept the suggestion, therefore, we admittedly bring philosophy down to the level of science; or, as some may prefer to express it, up to that level. The question which of these expressions is the more suitable remains to be considered. As a help towards doing so it may be well to indicate more precisely what the method is, noticing also any other assumptions that are involved in it, and any difficulties or apparent contradictions that have to be surmounted.

Since at present there is, by admission, no way in which any belief can be recognised as perfectly true, we are led to expect that any recognised 'truth' contains a hitherto undiscovered impurity in the shape of error, the problem of verification being that of reducing this alien element to its smallest dimensions by distinguishing, as far as we can, the inferences for which the belief is valuable from those for which it is misleading. Under this view the 'truth' in any belief is conceived as never more than a residue after certain errors have been eliminated; and though it is therefore still admittedly capable of a further winnowing process whenever the need may arise, every step in the elimination gives us an increase of knowledge. All increase of knowledge thus consists in a fuller and more detailed account of the *purposes* for which our 'truths' have been found misleading when accepted.

While therefore value for inference is taken to be the characteristic feature of recognised truth in general, value for particular inferences is taken to be our best means of measuring the truth contained in a given judgment. But in speaking of 'measurement' we must not imagine that this has anything to do with discovery of the relative *amounts* of truth and error so contained. In some contexts, and when we are content with loose expressions, we may still talk of 'degrees' of truth, and say that one judgment contains 'more' truth than another; but when we do so we must avoid supposing that a statistical estimate is of any scientific or philosophical value. Even if we had means of deciding that a given judgment contains, say, 90 per cent. of truth, this would not tell us anything about its value for particular inferences (purposes). We have here nothing to do with the calculation of probabilities, but only with the definite and partial check that comes through finding that a judgment, applied to the drawing of inferences, has misled us in this or that case. Such judgment, if we are to call it true, definitely requires that we must limit its scope by excluding this particular purpose from its range of application.

'Purpose' has evidently therefore some relation to 'meaning'. To exclude this or that purpose from a judgment's range is the same operation as to exclude this or that meaning from the statement in which the judgment is expressed. If it be admitted that some of our judgments are not expressed in language, being perhaps too subtle or too rapid for such expression, this cannot be said of any judgment while it is undergoing a careful enquiry into its truth. For it is only in the form of a statement that we can begin to criticise any judgment reflectively; and therefore the purpose-limiting operation is in practice indistinguishable from the meaning-limiting operation known as that of *definition*.

It is possible that some reader, still under the influence of his early logical studies, may here object that this ignores the distinction between real and verbal questions. But under our method no distinction is ever ignored except in particular applications. Distinctions are conceived by science not as either always or never valid, but always as valid for some purposes and misleading for others. This follows, in fact, from the doctrine that recognised truth is always 'truth for a purpose'; for whenever we use (*i.e.*, apply) a distinction between P and not-P in a particular case we commit ourselves to a *judgment* that—for some inferential purpose—certain things are P and certain others not so. The distinction between real and verbal questions has a value in certain applications,[1] but what is contended above is that *when* we are trying to discover for what purposes a given judgment may be accepted as true, the value of the otherwise useful distinction between real and verbal questions becomes irrelevant for the time, since the most real question has then to take the form of an enquiry into verbal meanings. Our identification of the process of limiting purposes with that of limiting meanings depends upon the fact that when a judgment is expressed in words the enquiry as to the inferences supposed to be deducible from it, and the enquiry as to the intended meaning of the words used, are in effect the same enquiry. Neither can be answered without thereby answering the other. Perhaps another thing that tends to obscure this point is the common habit of taking 'definition' to mean an account of customary or technical usage, instead of a declaration of the intended range of application of a given

[1] In a previous passage (p. 385) we met with an instance of its right application. To define truth as equivalent to reality is to postulate that the doubt as to their identity is to be ruled out of court; which is a futile postulate while the court itself is raising that very question. For the purpose of deciding whether truth and reality *are* the same thing, a decision that they shall be *called* so does not help us.

statement as made on a particular occasion. Take a statement such as "It is twelve o'clock," which if it were true for the purpose of catching a train at Dover or Penzance would necessarily be false for the purpose of taking the sun at sea. In order to decide whether the statement is true or false we must first know which of these (or any other) *contrasted* purposes it is intended to serve; and so no general account of the customary meaning of the words would be relevant. This example, I admit, does not illustrate well a problem of serious difficulty, since we can hardly imagine the statement made except in a context which would remove this doubt as to its meaning. But there is no lack of other statements which are not so well provided against excusable misinterpretation.

For instance, the great majority of general rules suffer from being elliptically expressed. Obvious and well-known exceptions are kept out of the statement of them in order to avoid a tiresome pedantry, our audience being supposed capable of supplying the omissions. But it often happens that our trust in the audience is too careless or confident, and then we may be asked to state plainly whether this or that case is supposed to come under the rule or not. Even when the greatest care is taken in trying to express a rule with sufficient completeness—as for instance in drafting an Act of Parliament—we are never quite safe against 'nice points of law' arising; and the resultant difficulty is of precisely the same nature, though not of the same frequency, as when a carelessly expressed rule is in question.

But the most important group of examples are the laborious attempts that are made by science to specify pieces of causal connexion. Owing to the immeasurable disproportion between the subtlety of events in Nature and the power of language to name them accurately, there is always room for the discovery that a hitherto accepted causal sequence between event A and event B has been too clumsily conceived. The connexion so named is found to be not quite universal, but conditional on other circumstances. It is only therefore a certain sort of A and a certain sort of B that are causally connected. And the trouble is that however carefully we proceed to add modification after modification to the rule as first conceived, there is always room for further modification as our experience grows. Our causal rules as conceived to-day by the experts in any branch of science require revision by the experts of to-morrow or some future time. There is at present no conceivable possibility of framing such a statement of a causal rule as will for ever guard us against the discovery

that it is true if interpreted in one sense and false if interpreted in another; true if used for one inference (purpose or application) and false if used for another.

Enough has perhaps now been said to give a general account of the method that claims to recognise human fallibility without falling into a merely stagnant kind of scepticism. We may therefore begin to fill in this outline by guessing at some of the mistaken objections that are likely to be brought against it. Some day, no doubt, we shall have relevant ones to consider and to incorporate in the method itself, but for these aids we have still to wait.

It would be irrelevant, for instance, to tell us that our method itself suffers from the absence of a perfect criterion. There are two likely forms of this supposed objection. One is that if *every* truth that is recognised must contain an unknown amount of error this would apply also to our own recognition that all recognised truth has this defect. The answer here is that our doctrine expects, and hopes, to be criticised. Like any other 'truth' it is put forward so that someone may find, if he can, definite errors contained in it—purposes for which it is actually misleading. Until this is done, what objection is there for us to meet? It is no objection to tell us that we *may* be mistaken, for that is part of our theory; the interesting question is whether we *are* mistaken or not, and if so in what way precisely. Of course if a critic could produce a perfect criterion so as to supersede our method, that would serve all purposes better; but, as we have seen, no one even pretends to have made this discovery.

The other form of the objection might attack, on the same ground, the trustworthiness of our winnowing process. When we have recognised a 'truth' as misleading for some purposes, what right have we to claim such recognition as decisive? Here again we have only to ask for some definite fault to be found in particular cases. In scientific enquiries this situation is continually met with. Facts taken to be subversive of a theory are continually being found ineffective for that purpose. But we do not therefore discard as worthless the method of testing theories by facts; we are only confirmed in our view of the need of care in using it, and reminded that we are not infallible.

It would be irrelevant, again, to object that truth is something too permanent to depend on shifting and conflicting human purposes. Such an objection could refer only to something other than *recognised* truth, since that is notoriously not permanent. Our theory is that, in the absence of any means of discovering perfect and permanent truth, it is wise

to accept the best substitute we can find; namely to accept any 'truth' for what it is worth in drawing inferences successfully and thus serving our purposes. And further that when we meet with a statement which seems to us true for one purpose and false for another the statement as a whole cannot be judged true (or false) until we know which of these purposes it is intended to serve. In the many cases where this difficulty has not yet arisen the reference to purpose is tacitly assumed, and no preliminary question is thought necessary.

Another conceivable initial difficulty is that of understanding how anyone can blow hot and cold at once in regard to his acceptance of a 'truth'. Must he not either accept it or reject it or preserve a purely neutral attitude? This question seems either to imply a greater amount of steadiness in our beliefs and disbeliefs than the well-known facts of human opinion warrant, or else to have in view moments so short as to be mere abstractions from anyone's actual course of thought. That we all do continually mix various shades of doubt with our beliefs—within, say, half a minute—can hardly be denied. But also the question ignores a fourth alternative,—namely modification, as coming between full acceptance and total rejection. Modification of a belief is perhaps the most usual result of critical attempts at verification. The belief is not destroyed root and branch but some of its branches are pruned away. And, expecting this, the man of science or even of common sense forms the habit of regarding his beliefs, however promising, rather as problems than as finished products. Certainly this attitude is essential to scientific enquiry at its best. There is no need, therefore, to define 'acceptance' as excluding all intention of modifying the belief later for sufficient reason shown. Let us here define it as including that intention as a matter of course.

Among minor objections we may notice a possible difficulty about our distinction between recognised and unrecognised truth. Suppose it said that since on the one hand recognised truth admittedly contains an unknown amount of error, and so falls short of being perfectly true, while on the other hand an unrecognised truth can never be identified as such, in neither case are the names strictly applicable to particular judgments. This seems to be met by our free admission that recognised 'truth' is never supposed to be perfect and final, and by explaining that unrecognised 'truth' is never supposed to be a name applicable to any particular judgment,[1]

[1] Except, of course, in the common loose usage—irrelevant here—in which we mean by it a truth recognised by the few but not by the many.

since we cannot apply it without recognising that judgment as true. The use of the distinction is to help us to remember that all intelligible problems about truth are those that refer to the *recognition* of judgment as true (in any possible sense). And our suggestion is that the chief of these problems is how to discover, within any judgment, the purposes for which it cannot be trusted.

Another natural objection might refer to the intended connexion between truth and 'practice'. In saying that recognised truth always has a relation to inferential purpose, must we assume that no judgment can be recognised as true until we can see how to turn it to practical account? There is evidently one sense in which this would never do; we must admit that true judgments can be formed far in advance of any practical utility they may afterwards have. Arithmetical calculations are an obvious example, and predictive calculations of other kinds are often accepted as true before the actual arrival of an event by which their truth can be triumphantly shown. Wisdom after the event is not the only kind of wisdom. When therefore we say that every recognised truth has a value for inference we do not mean that the occasion for applying it in practice is necessarily always present, or even expected, but only that no statement can claim to express a truth unless it professes to have a *meaning*, and that wherever a doubt has arisen about a statement's meaning such doubt can only be removed by reference to the statement's intended *application* in drawing inferences. Suppose, for instance, someone takes the trouble to evaluate π to the 100th decimal. No occasion for applying this is at present likely to occur, but at the same time no doubt arises about the manner of its application should such occasion ever arise. On the other hand a statement like "Ultimate Reality is such that it does not contradict itself" leaves us uncertain whether it does or does not mean that the Law of Contradiction can always be applied without risk of error. If it does mean this it ignores the fact that every term is liable to be ambiguous when used as a predicate, while in the other alternative its 'truth' requires testing by some method left unexplained.

Again, there is no need to assume that in all truth-seeking it is advisable to keep the practical value of the research continually in sight. The opposite view—though equally one-sided—has more to be said for it, on the well-known principle of giving our whole attention to every step in a difficult climb. Science notoriously suffers when commercial purposes encroach upon 'pure' curiosity, and it would be a poor kind of

philosophy that would be content with any less disinterested[1] motives than science. The common conversational way of recognising this is by means of the distinction between theory and practice. But though in casual talk we may conveniently call the purest known form of truth-seeking 'theoretical' in contrast to the less pure forms of it which keep an eye on 'practical' or commercial results, it does not follow that the contrast holds good universally. Least of all can we make use of the rigid distinction when the question raised is whether theory in general exists for the sake of directing our practice, for then we should beg the question instead of trying to answer it.

On the other hand we must also be careful not to beg that question in the opposite sense. Evidently the assumption that recognised truth, as such, has value for inference does lead us to connect the notion of theory with that of practice to some extent; and the question is how far we can agree upon the precise nature of the connexion. Can we agree, for instance, that though it is possible to draw inferences 'merely for the sake of drawing them' yet a *confessedly* endless process of this sort would itself be devoid of value? We may imagine it as having an educative value, and so a postponed practical value, but if it were conceived as neither immediately nor remotely useful in improving our control of circumstances or helping us to choose wisely between alternative courses of action, such a use of our time and trouble seems difficult to justify. Even the time we spend in eating, or in playing games, has more to be said for it than this, since recreation is supposed to fit us for action later. We may, of course, decide to call this verbal kind of mental exercise 'philosophy' in contrast to 'science,' but one does not see why it should be held superior to the equally strenuous but less playful mental exercise that science provides.

A more serious possible objection here suggests itself, namely that there is room for a range of real enquiry which shall be super-scientific in the sense of being concerned with loftier objects. There may be some who would tell us that science, though excellent in its way, is not concerned with philosophical problems except by trespassing outside its own legitimate field. But though each special department of science, so far as it chooses to limit its own enquiries and to accept some assumptions without question, is of smaller scope

[1] This word is here used in its common inaccurate sense, as meaning freedom from any *lower* interest than that of truth-seeking. It is not intended to imply that anyone ever tries to solve a problem without having some interest in doing so.

than anything that would nowadays be called philosophy, there is no reason why we should confuse this departmental work with scientific method as a whole. And as to the comparative loftiness of various enquiries, while we may all admit that questions about (*e.g.*) immortality or free will are, in a sense, loftier than questions about causal sequences in the animal vegetable or mineral worlds, this tells us nothing about the value of the scientific conception of *truth* as contrasted with any philosophical one. Whether lofty or not, the enquiry into our best available criterion of truth is fundamental. So that if we allow that speculative philosophy attacks loftier problems than (say) chemistry, it is still possible to hold that *critical* philosophy and science work under the same conditions. The cry that under our view philosophy disappears altogether suggests the question whether the search for truth would not thereby gain greatly in freedom from wordiness and futility. Is there any kind of enquiry, however lofty in its aim, that can afford to ignore the risk of ambiguity in the questions raised?

The point is that our view of the nature of recognised truth is intended to be applied in all careful and elaborate enquiries, without distinction of higher and lower. If it be accepted, therefore, there is no room for a philosophy superior to it, except so far as mysticism or poetry can justify a claim to be more truly philosophical than plainer forms of statement. We have no right, I think, to deny the existence of inexplicable flashes of insight that surpass our power of clear expression in words. But we have also no general test by which to distinguish them from illusions. At least it is still questionable whether such a test can be found.

Perhaps it will be asked how scientific method can be applied to the valuation of our religious or artistic impulses, or again to the fundamental assumptions under which science has to work. Religious creeds and artistic doctrines may perhaps be criticised scientifically but what about the elusive and vital spirit which lies behind these poor expressions of it and which deserves to be contrasted with the 'letter'? In answer, we can only ask whether any philosophy is in a better position than science in regard to such valuation. Are not both under the same difficulty in regard to it? There seems to be no satisfactory method that a super-scientific philosopher, as such, could use, and the method he often appears to use is merely that of accepting uncritically the assumptions of language. Science would then have a good deal to tell him about the failure of words to cope with the endless subtlety of facts.

As to criticising the fundamental assumptions of science, we should all welcome such an operation if someone would show us how it is to be done without making other assumptions that would be still less satisfactory. In the absence of any suggestions it is difficult to imagine what ground the criticism could stand upon without begging the question whether language is free from the risk of ambiguity. We cannot dispense altogether with the use of language unless our vision of reality is to remain incommunicable to others. From this dilemma a poet might perhaps be called free, his freedom consisting however in disregard of critical doubts; but this line of escape does not seem open to the philosopher, at any rate as philosophy is now conceived in our Western civilisation.

A doubt may here be suggested whether it is possible to use language in showing the necessary conditions under which language is used,—*i.e.*, in showing the risk of ambiguity to which all language is inevitably liable through its dependence on general names. The answer seems to lie in distinguishing between mere liability and actual occurrence. It is only the risk of ambiguity which is inevitable, not the discovery of instances where a statement is true for one purpose and false for another. If the discovery were also inevitable the problem of truth and error would be at an end and we should all be omniscient. The assumption that we are not omniscient, therefore, is involved in our recognition of the risk. Nor can I at present see any way in which the statement of this assumption can be found actually ambiguous. If its ambiguity is ever shown we must of course take what steps we can to remove it Meanwhile, we may hope the statement is true for the purpose for which it is used.

Perhaps it will be said that constant anxiety about particular cases is itself what condemns the scientific method to a lower level than that of philosophy proper. Philosophical ethics, for example, has a way of looking down upon 'casuistry'. But it is equally open to us, while insisting on the general value of casuistry, to recognise its dangers in a particular field; there need be nothing unscientific in admitting that character often suffers in the attempt to make our rules of conduct trustworthy by limiting their range of application. If character does suffer in this way all that need follow is that the moral value of careful truth-seeking has certain limits; that it is possible to seek truth on occasions when it is not desirable to do so. It is not therefore apparent why a super-scientific philosophy is required in order to recognise this fact about human character. Its truth, so far as it is

true, is proved in the same way as any other fact that science recognises—by observation of particular cases in the light of whatever causal knowledge we possess.

The same may perhaps be admitted on a wider scale than in Ethics alone. There seems to be no scientific reason for denying that even truth itself may on occasion be more successfully discovered by ceasing, at times, to search for it methodically. Such a belief however leaves us uncertain as to the actual occasions of success and failure; and, after all, the immediate object of truth-seeking is to conquer this uncertainty as far as possible. There is no satisfactory resting-place in the belief that for visions of truth we must either passively wait till they occur or mix our efforts with a vaguely estimated leaven of slackness. But no one need imagine that the *art* of truth-seeking can ever be made easy.

When all these direct objections, and any others, are satisfactorily answered there remains a possible further doubt whether our account of the nature of truth tells philosophers anything new. Naturally the accusation of truism is not brought forward until the later stages of a controversy, but at some point it is likely to be made. The old and the new in any doctrine are often intimately mixed and difficult to disentangle even when we wish to do so; and the wish is sometimes not very ardent in a controversialist who thinks he can profit by the confusion. But the attempt to ignore one part of a doctrine on the ground that you have always agreed with the rest of it cannot long succeed. When the part ignored is definitely brought to your notice you cannot convincingly both continue to fight against it and also claim that you have always held it as your own. Rightly or wrongly those who accept the view of truth that has here been put forward believe that there is an influential sect of philosophers who are far from agreeing with some of its chief items. We believe that they find them not stale but too subversive to be endured. They have formed the habit of working under a set of assumptions which seem to us delusive, and if we happen to be right in this opinion it would be futile for them to profess to agree with us.

Prominent among their bad habits of thought is that of assuming that the contrast between theory and practice is thoroughgoing and can be trusted in every possible context. This is what leads some of them to view the doctrine that "theory exists for the sake of directing our practice" as saying that "theory has no value except of a borrowed kind". What it does mean to say is that any so-called theory which is *confessedly* out of all relation to practice is wrongly called

by this honourable name. We have already granted above that there may be recognised truths for which no present use can be found; and so long as these are statements with a meaning there would be no harm in calling them theoretical rather than practical. All distinctions are capable of being slackly used on occasion without confusing any issue. What is novel here—to these philosophers—is the proposal for making 'theories' which are found ambiguous either stand and deliver their meaning in relation to practice or stand condemned as empty verbiage. Our method identifies the removal of an ambiguity with a clear declaration of the ambiguous statement's inferential purpose.

The vice of 'intellectualism,' or verbalism, with which our method is mainly at war, is in some danger of being obscured if we think of it as excessive reliance upon the intellect to the exclusion of other parts of human nature. Even if that be one aspect of it, a more fatal one is its tendency to ignore the risk of ambiguity. We all do, on occasion, ignore this risk—namely when and while our belief in any 'truth' is strong; but the intellectualist seems unable to see that in order to find fault with a judgment (our own or that of someone else) we need the power of discriminating between its virtues and defects as an instrument for drawing inferences. We need, that is, the power of seeing ambiguity in it *definitely*.

The doctrine that all recognised truth is purposive is intended to have for one of its corollaries the admission that the doubt whether a given 'truth' deserves acceptance often turns—and especially when a decision is difficult—upon our power of seeing the assertion as capable of being both rightly and wrongly applied in drawing different inferences. So far as any philosopher really agrees with this he has the root of our method in him. But a sham agreement, forensically claimed as an excuse for inattention, will do nothing to advance the cause of truth.

IV.—A NOTE ON THE INDIAN SYLLOGISM.

By H. N. Randle.

The western syllogism has the appearance of having sprung all at once into existence, from the head of Aristotle, clad in complete mail. It has about it no marks of the labour of thought which brought it to birth, and seems more like a work of art than an organism with an evolution behind it. The Indian 'syllogism,' on the other hand, is an organism with its history plainly recorded in its structure: an untidy organism, too, with vestigial structures and rudimentary organs which are changing their functions while preserving more or less of their primitive form. And for this reason, perhaps, it may have something to tell us about the 'morphology' of thought which is not so transparently conveyed by the more perfect work of art, the Aristotelian syllogism. The more untidy organism may therefore repay study.

The Indian syllogism has neither Mood nor Figure.[1] It has what can be recognised as *corresponding* to the three terms of the Aristotelian syllogism. The 'major term' is denominated the Probandum, and the 'Subject' (or 'minor term') is defined as "that which has the Probandum doubtful."[2] What corresponds to our middle term is called

[1] But see below, footnote 3 to p. 399.

[2] In the earlier logic the word translated literally Probandum, and confined in the later logic to the 'major term,' was applied indiscriminately both to the major and to the minor term. The earliest commentator explicitly says that Probandum means either the Subject qualified by the property-to-be-proved, or the Property-to-be-proved qualified by the subject. This terminology seems to show that the Indian logician did not regard his 'terms' as separable entities: and if he had used symbols (as he never did) he might perhaps have written Sp is sP—instead of our S is P, *i.e.*, the difference between subject and predicate is rather a difference of emphasis within the same complex. It is noteworthy that (so far as I know) Indian logic has no *generic* name for the 'term'. The Indian syllogism has 'Members,' but these are propositions.

Historically, the ambiguity of the word Probandum is due to the fact that it formed the first member of the two compounds *sādhyadharma* and *sādhyadharmin*,—*sādhya* meaning probandum, *dharma* property, and *dharmin* property-possessor. The former compound was used to refer to the 'major term,' and the latter to refer to the 'minor term,' so that the two things were distinguished by the mere difference in the noun-suffix. But the latter members in these two compounds were

by various names signifying Probans, Mark, Reason. But the Indian logician does not abstract M and P from their concrete embodiments; and he therefore distinguishes SM, or the Probans as it occurs in the Subject or minor term, from XM's, *i.e.*, the Probans as it is found in other concrete cases. And this becomes important in the case of an unlimited probans such as 'existence' or 'knowability'; or again in the case of a probans which is a peculiar property of the Subject, as 'audibility' when used to prove some conclusion about 'sound'. For, in the former case, there are no X non-M's, and in the latter there are no XM's: which, on the Indian view of syllogism as an argument from Examples, casts a doubt on arguments employing such Probans.[1]

It is convenient to use symbols, and the familiar S, M, and P will serve: but the Indian logician did not use them, and they tend to misrepresent his point of view. The appellations major, minor, and middle term, are also misleading, at any rate in speaking of the earlier logic. The earlier[2] Indian logician never considers the distribution and quantification of the terms in the syllogism, and the way of regarding subsumptions which is exemplified in Euler's circles, and which is second nature to us trained in the formalism of Western school logic, does not seem to have entered into his account of syllogism. The whole business of conversion and immediate inference, essential to our formalism, is unknown to Indian logic, so far as I am aware. It is therefore a mistake to equate the Indian logician's list of fallacies with our Undistributed Middle, and Illicit Process. And because his syllogism has no doctrine of Figures[3] it is

ordinarily omitted, so that the first member, *sādhya* = probandum, was left to do double duty as name for both major and minor term. This was so obviously inconvenient that another word, *paksa* (side, side to a discussion, thesis), came into use to denominate the minor term, leaving *sādhya* as the appellation of the major.

[1] The terms Subject, Probans, Probandum, are borrowed from Dr. Ganganātha Jhā's translation of the Nyāya Sūtra and Bhāsya—published in *Indian Thought* (Allahabad and Benares, 1912-1920), and separately (Allahabad). This is a work which places all students of these difficult texts under very great obligation to the author.

[2] A distinction between the Probans as 'pervaded' (*vyāpya*) and the Probandum as 'pervading' (*vyāpaka*) arose in connexion with the doctrine of universal connexion,—*vyāpti*, Pervasion. But it never developed into a quantitative account of the relation of the terms in a syllogism.

[3] A passage in the seventh century Buddhist logical tract Nyayabindu treats of arguments from *Non-perception* as the Probans, as a separate type. These have a negative minor premise and a major of the form All P is M (in place of All M is P). And this is the essential character of the Second Figure. The author first points out that any argument may be

undesirable to equate his arguments with Barbara, Celarent, etc.

After this statement of what Indian logic is *not*, it might seem that there is little left for it to *be*, at any rate as an 'art'; and it might seem that it can have no content worth mention. How could such a logic provide Rules and Canons of syllogism or any criteria for distinguishing valid from invalid subsumption? The doubt may seem to find confirmation in memories of the Indian syllogism as quoted (quite correctly) in some of our manuals of logic—a cumbrous affair of five propositions, two of which seem vain repetition, while the 'major premise' is stated in an apparently unnecessary double positive-negative form, and supported by examples always—apparently—superfluous, and sometimes puerile.

1. That hill is on fire,
2. Because it is smoking;—
3. As smoke and fire go together, on the hearth, while non-smoke and non-fire go together, in the lake,
4. So here: [so *not* here:]
5. Therefore is that hill *so*, *i.e.*, on fire.

(The reference of course is to forest fires in the mountains.)

put either positively or negatively. He calls the positive form the form 'based on likeness' (*sādharmyavat*), and the negative form the form 'based on unlikeness' (*vaidharmyavat*): which means that in the former case the minor premise has the same 'quality' as the major, in the latter it has the opposite 'quality'. But he adds that a mere change of form marks no real difference in the argument. It is the same thing to say

All M is P
S is M

Therefore S is P (the *sādharmyavat* form): and to say

All non-P's are non-M
S is not non-M

Therefore S is not non-P (the *vaidharmyavat*). But he notes that there is a particular class of arguments from non-perception as Probans,—

All (possible objects of perception) which are present are perceived
The pot is not perceived
Therefore it is not present,—

in which the *vaidharmyavat* form is the form which the argument will take when the major is stated in the direct or positive form (*anvaya*). This is a genuine CAMESTRES, with affirmative major of the All P is M type.

He points out that you *can* express it as a *sādharmyavat* argument by putting the major in the indirect or negative form (*vyatireka*):—

Whatever (possible object of perception) is not-seen, is not-present,
The pot is not-seen
Therefore it is not-present.

This of course is BARBARA in form—but not in nature. The truth about 'Figures' seems to be clearly enough apprehended here, though the Figure as a 'dodge' was not utilised in the Indian schools.

That seems to have been the early form of the syllogism[1] —a *paradeigma* or argument from particular to particular through likeness or unlikeness; and yet on its way to becoming an explicit 'deduction' from a universal connexion, or *vyāpti*, 'Pervasion' of smokiness by fieriness. This element of *vyāpti* later came to be more and more emphasised, until the example got the appearance of an excrescence, although always retained as an element in the third member of the five-membered syllogism. The third member then took the form:—

> All that is smoky is fiery, as the hearth; and all that is not fiery is not smoky, as the lake.

That is, the element of analogy is now obscured, for the 'so'[2] of the fourth and fifth members no longer appears as correlative of the 'as' in the third member, but as a mere demonstrative standing for the M and P of (what is now) the major premise. And the third member has now crystallised into a formula with the order of terms fixed:—

> All M is P . . . and All non-P is non-M.

It is in this developed form that the Indian syllogism is quoted in European books. The European reader then says to himself: "This of course is a combination of a syllogism in *Barbara* with a syllogism in *Cesare*:—

> All that is smoky is fiery
> This hill is smoky
> Therefore it is fiery
>
> *and*
>
> Nothing that is not-fiery is smoky
> This hill is smoky
> Therefore it is not non-fiery, *i.e.*, it is fiery.

One of these syllogisms is unnecessary: the two examples are superfluous: and the first two members are identical with the last two and serve no purpose."

All these three criticisms have been anticipated by Indian logicians. As regards the last, a distinction was made between 'inference for oneself' and 'inference for another' (*i.e.*, the setting out in words of a reasoned belief for the instruction of others), and the five-membered syllogism was by some

[1] See Prof. A. B. Keith's *Indian Logic and Atomism* (Oxford Univ. Press, 1921), p. 87.

[2] The earliest commentator says explicitly "the Application—fourth member—is a comparison (analogy), as is shown by the word 'so'".

logicians confined to 'inference for another'.[1] Ordinarily all schools state their inferences with the utmost possible brevity, in the form: "The hill is on fire, because smoky; like the hearth." But it will be noted that the *example* is retained, even in this abbreviated form.[2] The third member was always called, not after the statement of concomitance which it contained, but after the *illustration* of that concomitance included in it: that is, it was known as the *Example* (*udāharana*). The five members of the full syllogism were called (1) the Proposition, (2) the Reason, (3) the Example, (4) the Application, (5) the Conclusion.[3] For us it is the 'major premise' that conveys the relation of the middle to the minor; for the Indian logician it was always the 'Example' that carried this function.

And that is why (to revert to the second of the three criticisms brought against the Indian syllogism) the third member has the double positive-negative form. It certainly would be superfluous to state *in a 'major premise'* not only that All men are mortal but also that No immortals are men; because, as the Indian logician was well aware,[4] the one form implies the other. But so long as the weight of your argument is

[1] It seems to me clear that this is the meaning of even the earliest commentator, Vātsyāyana, though he does not explicitly formulate the distinction between 'inference for oneself' and 'inference for another'. He never calls the five-membered syllogism 'inference' (*anumāna*), but refers to it as the Probative Statement (*sādhakavākya*). And in a significant passage (I., i. 39) he says that this Probative Statement, or syllogism, is a combination of the several means of knowledge (*pramāna*): the first member or Proposition being matter of Testimony; *the second or Reason being Inference;* the third or Example being matter of Perception; the fourth or Application being Comparison (also reckoned by some as a separate means of knowledge).

[2] It was not uniformly retained. After the full development of the doctrine of universal concomitance or Pervasion (*vyāpti*) a feeling arose in some quarters that the example was superfluous, and it was rejected altogether by a few writers. But this was an abnormal doctrine, and contrary to the spirit of the Indian syllogism.

[3] The conclusion is the restatement of the Proposition. A scholiast on the Prior Analytics observes that the 'problem' is the same as the conclusion: when put forward with a view to proof as something not known, it is called the problem: when proved it is the conclusion. Brandis, *Scholia*, p. 150, col. 2, ll. 38-46.

[4] *E.g.*, the Buddhist logical tract *Nyāyabindu* follows up the useful principle that words are not necessary when the thing is understood, with a demonstration that the positive form of the *vyāpti* implies the negative and *vice versa*. Only one need be *stated*. Another work quotes the ingenious obse vation of a critic of the full syllogism, considered as 'Inference for Another,' to the effect that other people's mental processes are difficult to get at, and that it is impossible to say that just so much verbal expression will convey understanding, and less will not.

felt to be carried by the *example*, the case is different: and it is now necessary to give two examples, one of positive concomitance of M and P, and the other of negative concomitance—one an XMP, the other an X non-M non-P. For an example of positive concomitance *alone* proves nothing: but if an example of negative concomitance is adduced at the same time, then, *under certain conditions* your *paradeigma* may amount to a demonstration of the conclusion.

What are these conditions? How far was the Indian logician able to formulate them without that apparatus of mood and figure and distribution of terms which constitutes formal logic for the western schoolman? Is there any way of laying down syllogistic canons other than that of the Dictum de Omni et Nullo?

If Example is made the nerve of demonstration, the validity of the argument will obviously depend on whether or not a concrete *enstasis*, or 'instance' in the shape of a *counter-example*, is forthcoming. The material with which logic, so conceived, would work, would be Positive Examples (MP), Negative Examples (non-M non-P), and 'Instances' in either of two forms (M non-P, and non-MP). And the Canons of the syllogism, conceived thus as an affair of Examples and Counter-examples, would consist in a statement of *what examples, in the absence of what 'instances,'* will establish a valid conclusion.[1] Such Canons are to be found in a doctrine of the Three Characteristics of the Reason (*trirūpahetu*) formulated both by the Buddhist logician Dignāga[2] and the orthodox philosopher Prasastapāda, perhaps about 400 A.D.; and passing through their formulations into the general logical stock-in-trade of the Indian schools.

The three characteristics which the middle term must have are:—

1. It must reside in the Subject.[3]

[1] Which amounts to saying that the Canons of syllogism are the Canons of 'induction'. And I believe that this is just what the Indian view of syllogism *amounts* to. Dr. B. Faddegon in his Vaisesika System (Amsterdam, 1918) calls the Indian syllogism a combination of a deduction with a superficial induction. See further on this point below.

[2] Otherwise Dinnāga, a very interesting figure in the development of Indian logic, on whom see Stcherbatskoi's brilliant article in *le Muséon* (1904), n.s., vol. v., which has formed the basis of subsequent discussion. Dinnāga's works are unfortunately available only in Tibetan versions, but some account of them has been given by Dr. S. C. Vidyābhūsana in his *Indian Logic: Mediæval School*. I draw my account from this work.

[3] In the older writers like Prasastapāda and (perhaps) Dignāga, the word translated Subject was still liable to the ambiguity noted above [the word used is the equivalent of *sādhya* and liable to the same ambiguity, as meaning either Subject (minor term) or Probandum (major term)]. It is

2. It must reside in Positive Examples only.[1]
3. It must be only [1] absent in Negative Examples.

The formulation of the Second and Third Canons is a clear case of botching, and the double use of 'only' is where the botching comes in. And the word *only* in both cases may well be the addition of a botcher who was trying to make a *paradeigma* do what it by its very nature could not do, *i.e.*, give a guarantee that no contrary case *could* be produced. You cannot prove '*only*' by examples. The utmost you can do is to challenge an opponent to produce his contrary case, his XM non-P, yourself producing cases of X non-P which

therefore possible, even probable, that the first canon as originally formulated was an assertion of universal connexion between Probans and Probandum. Later writers, however, always took it in the sense in which it is translated above, *i.e.*, as the assertion that the Probans must be found in the Subject—S must be M. And this seems so much more likely an interpretation *prima facie* that it seems gratuitous to suggest that it originally had the other meaning. There are nevertheless strong reasons for believing that this was the case—see Keith, *Indian Logic*, pp. 137-138. If so, these Canons present exactly the same double character and the same redundancy as the syllogism itself presents in its third member, the 'Example' so-called, which combines a statement of 'Pervasion' (*vyāpti*) with concrete examples. As Dr. Keith says: "the explanation . . . is perfectly simple. The three conditions represent a precise statement of the third member of the syllogism, the Example, when completed as it was in Prasastapāda's time by the enunciation of the general proposition." Dignāga is credited by modern critical historians of Indian Philosophy with the 'discovery' of the universal proposition, and it is supposed that Prasastapāda borrowed this and much else from him.

[1] It is the word translated 'only' in the two latter Canons (Sanskrit *eva*, a particle of emphasis and exclusion) around which controversy as to the exact formulation of these canons has turned.

The Second Canon means that XP's (some, not necessarily all) must be M, and that no counter-example of X non-P being M must be forthcoming.

The Third Canon means that X non-P's (all of them) must be non-M, and that no counter-example of X non-P being M must be forthcoming.

The objection to the formulation is obvious—the 'only' of the Second Canon excludes precisely the same counter-examples as are excluded by the 'only' of the Third Canon. And as the Second Canon has already stated, by means of this exclusion, that all XM's must be XP's, there is nothing gained by the contrapositive statement in the Third Canon—that all X non-P's must be X non-M's. And I think that the formulation is in fact indefensible.

But it is easy to see how it grew into this form. First there is the need of positive examples, XMP's. Then there is the need of *denying* the occurrence of counter examples XM non-P. And this denial *can only* take the form of pointing to X non-P non-M's. The limits of the method are in fact reached when you have pointed to XMP's and then (in answer to the suggested possibility of XM non-P's) pointed to cases of X non-P's which are non-M.

are *non-M*. When you have done this you have exhausted the possibilities of your method. Experience has shown MP's. It has *not* shown M non-P's. On the contrary it shows non-M non-P's. And there you have the natural Canons of a syllogism which remains an affair of examples and counter-examples.

Of course there is an inclination to interpret the *Trairūpya*, the Three Characteristics, in terms of the *Dictum de Omni et Nullo*, as an affair of 'distribution of terms'; and I do not deny that there were tendencies in Indian logic itself towards the quantitative view embodied in the *Dictum*. And yet I think that the best way to understand the spirit of the *Trairūpya* is to forget the *Dictum*, and to interpret the Indian formulation of the syllogistic canons in the light of the original Indian conception of syllogism,[1] which had no terms and no notion of their distribution. It is in this light rather than in the light of the *Dictum* that we can best understand the List of Nine Valid and Invalid Types of Syllogism, contained in Dignāga's tract entitled the Wheel of Reasons Set in Order—the nearest approach that I know of in Indian logic to our *Barbara Celarent, etc.* The nine arguments represent all possible 'moods'[2] of the syllogism, invalid as well as valid—so that Dignāga's syllogism has at least the advantage of parcimony compared with ours. Two are valid. Five come under the head of *Inconclusive*.[3] Two come under the head of *Contradictory*.[3] The topic of all nine Types is the same—the eternity or transitoriness of sound: which means nothing to us, but was a much discussed question in the Indian schools. The nine arguments which follow will be found in a diagram facing page 100 of Dr. Vidyābhūsana's book. They are there arranged as follows; but I am not clear whether the arrangement in a square is Dignāga's or Dr. Vidyābhūsana's :—

[1] By which I mean the earliest available account of syllogism. And this is to be found in the Nyāya Sūtra, and in Vātsyāyana's Bhāsya or commentary thereon. Neither can be dated, though Jacobi has attempted to date the Philosophical Sutras in the *Journal of the American Oriental Society*, vol. xxxi. (The references in the Vaisesika Sūtras are no doubt earlier, but hardly constitute an intelligible 'account' of syllogism.)

[2] But they are not 'moods,' rather Types.

[3] These are two of three classes of fallacy commonly recognised. A third class of fallacy is the *Unreal* reason, which consists in taking a middle term which is not found in the Subject, and thus constitutes a breach of the first canon. This class of fallacy is not represented in the Wheel of Reasons: the Wheel only sets forth all possible relations of the 'middle' to the 'major,' and does not concern itself with the relation of the 'middle' to the 'minor'.

The Wheel of Reasons.

I.	II.	III.
Inconclusive (unlimited).	VALID.	Inconclusive (too wide).
IV.	V.	VI.
Contradictory.	Inconclusive (too narrow).	Contradictory.
VII.	VIII.	IX.
Inconclusive.	VALID.	Inconclusive.

No. I. Sound eternal because an object of knowledge. (Inconclusive.)
Positive example XMP . . Ether [1]
Negative Example . . . (None is possible, for nothing can be quoted which is *not* an object of knowledge.)
Counter-Example XM non-P . A pot.

No. II. Sound non-eternal because produced. (VALID.)
Positive Example XMP . . A pot.
Negative example X non-M non-P Ether.
Counter-Example . . . (None is forthcoming.)

No. III. Sound an effect of effort or volition, because non-eternal. (Inconclusive.)
Positive Example XMP . . A pot.
Negative example X non-M non-P Ether.
Counter-Example XM non-P . Lightning.

No. IV. Sound eternal, because produced. (Contradictory.)
Positive Example . . . (None forthcoming.)
Negative Example . . . (None forthcoming.)
Counter-Example XM non-P . A pot.
Counter-Example X non-MP . Ether.
(The two counter-examples provide the material for argument No. II., leading to the contradictory conclusion.)

No. V. Sound non-eternal, because audible. (Inconclusive.)
Positive Example . . . (None is possible in this Type, known therefore as 'the too restricted reason'. There is no XM, but only SM, since audibility is the peculiar property of sound.)
Negative Example X non-M non-P Ether.
Counter-Example X non-MP . A pot.
(But of course no Counter-Example in the fatal form of XM non-P will be forthcoming, as there are no XM's. The case must be argued in the field of non-M's.)

[1] Dr. Faddegon, *op. cit.*, p. 108, remarks: "The translation of *ākāsa* by 'ether' is very misleading. It has nothing in common either with the Greek notion of *ἀιθήρ* or with the notion of ether as conceived by modern European physics. It is space as the medium through which sound is transmitted. I have called it 'physical space' in order to distinguish it from *dis*, *i.e.*, space regarded with reference to direction, termed by me 'mathematical space'." (*Dis* is the root found in Greek *δείκνυμι*. *Ākāsa*, etymologically, would indicate brightness or light. Philosophically, its function is to be the medium of sound, and the subtle stuff of which the inner organ of hearing is composed.)

No. VI. Sound eternal, because an effect of effort. (Contradictory.)
Positive Example . . . (None is forthcoming.)
Negative Example X non-M non-P Lightning.
Counter-Example XM non-P . A pot.
Counter-Example X non-MP . Ether.
(The two Counter-Examples provide the material for argument No. VIII., leading to the contradictory conclusion.)

No. VII. Sound a non-effect-of-effort, because non-eternal. (Inconclusive.)
Positive Example XMP . . Lightning.
Negative Example . . . (None forthcoming.)
Counter Example XM non-P . A pot.
Counter-Example X non-MP . Ether.
(Here the positive example prevents the two counter-examples from establishing the contradictory conclusion, as they do in No. VI.,—so that the reasoning is merely inconclusive.)

No. VIII. Sound non-eternal, because an effect of effort. VALID.
Positive Example XMP . . A pot.
Negative Example X non-M non-P Ether.
Counter-Example X non-MP . Lightning.
(A counter-example in the form X non-MP does not affect the validity of the argument. Contrast No. III. In the other VALID argument, No. II., there are no non-MP's, because, as we should say, the major premise is simply convertible, *i.e.*, all **M** is *all* P.)

No. IX. Sound eternal, because corporeal; (*or*, because incorporeal). (Inconclusive.)
Positive Example XMP . . Atoms.
Negative Example X non-M non-P Action.
Counter-Example XM non-P . A pot.
Counter-Example X non-MP . Ether.
(If you take 'incorporeal' for the middle term, the counter-examples become the examples.)

Such a list underlines the fact that a counter-example in the form XM non-P is fatal whereas a counter-example in the form X non-MP does not matter: which *amounts* to saying that All M must be P and that All non-P must be non-M; whereas it is not necessary that All P should be M and that All non-M should be non-P. From the time of Prasastapāda and Dignāga the latter mode of formulation had established itself and the 'major premise' had crystallised into the two propositions with order of terms fixed and subject 'quantified'—All M is P; All non-P is non-M. But the other way of formulating the syllogism, by example and counter-example, was the original way, and it continued to survive alongside of the new method. Hence the double character of the Indian syllogism (in respect of its third member, the so-called 'Example'), and hence the rather confused combination in the *Trairūpya*, or syllogistic Canons, of the two points of view. That the syllogism still continued to be regarded as an affair of examples is evidenced by the interpretation commonly put upon the second and third Canons. They were usually interpreted to mean, not

merely that all M must be P and that all non-P must be non-M; but further that there must be *actual examples* (other than S) of M being P, and also *actual examples* of non-P being non-M. That is, the second was taken to mean that actual XMP's must be forthcoming; while the third was taken to mean that actual X non-P non-M's must be forthcoming. And these requirements become of obvious importance in the cases of two of the Types of argument given in the Wheel of Reasons,—the argument from an *unlimited* reason (No. I., sound is eternal because knowable): and the argument from a *too limited* reason (No. V., sound is non-eternal because audible). For in the former case *there is no non-M:* and in the latter case *there is no XM.* Indian opinion divided itself in a very significant controversy as to whether arguments in these two types could ever be regarded as valid. It is worth while considering these two types in more detail.

No. I., the unlimited or '*Purely Positive*' Reason:

The example of this given in the Wheel is open to the fatal counter-example of the pot which is of course knowable, and yet not eternal. But if an unlimited middle term is used to prove an *unlimited major*—as, the pot is nameable because knowable,—so that no counter-example in the form XM non-P is forthcoming, is this type of argument still inconclusive? Some rejected such arguments as breaking the third Canon—that the Probans must be absent in negative examples—this being interpreted to mean that there must *be* negative examples, X non-M non-P. The orthodox school of logic (the Nyāya), however, maintains the validity of such arguments, classing them under a separate rubric under the name 'purely positive' (*kevalānvayin*). The real solution of the controversy no doubt is that the reasoning would be invalid if it were paradeigmatic: and the Indian logician makes syllogism an affair of examples. But in this type of argument the positive 'examples' are as irrelevant as negative examples are impossible. For the reasoning is not by examples at all, but implicative—a matter of 'agreement of ideas,' and not of evidence. And, as such, it is valid reasoning, though invalid *paradeigma.*

No. V., the '*too limited*' or '*Purely Negative*' Probans:

Sound non-eternal because audible. Obviously we could just as well argue that sound is eternal because audible, for no XM can be adduced, since the M, audibility, is the peculiar property of the S, sound. The argument is therefore confined to negative cases, X non-M's, things that are not the object of the auditory sense—and of these some are eternal and some are not. (Sound itself of course cannot be used as

an example, SMP, for S, the minor term, is by definition "that which has the probandum *doubtful*".)

But suppose that in the sphere of negative cases, X non-M's, as a matter of fact P is *not* found, so that no enstasis to the experience X non-M non-P is forthcoming (in the form of a counter-example X non-MP). The Nyāya school, which defends this type, under a rubric of 'Purely Negative' Probans (*kevalavyatirekin*), adduces as an instance of a valid inference in this type the argument "The living organism has a soul because it has vital functions." No positive example can be quoted, other than the living organism itself, of things possessing vital functions. But within the sphere of things *not* possessing vital functions—pots and the like—no one would assert the existence of soul: so that to the negative example X non-M non-P no enstasis in the form X non-MP is forthcoming.

There is the same division of opinion about this 'Purely Negative' type as there is about the 'Purely Positive' type; some rejecting it as a breach of the second Canon—that the Probans must reside in Positive Examples only: which is interpreted to mean that there must *be* a positive example, XM. And here again the solution of the controversy seems to be that such arguments are invalid *paradeigmata*,[1] but

[1] The trick of the *purely negative* pseudo-paradeigma is a fallacy of many questions. Your opponent maintains that there is no such thing as a soul. "Well then," runs the retort, "of course you will agree that inanimate things are soul-less?" The opponent (it is supposed) feels himself compelled *a fortiori* into this admission, having maintained the more comprehensive position that *everything* is soul-less. The admission provides you with the negative example free from enstasis which you consider *in this particular Type* sufficient for proof. As a matter of fact your argument will involve an illicit process of the major :—

Inanimate things are soul-less
The living organism is not inanimate
Therefore the living organism is not soul-less.

(The seventh century commentary Nyāya-vārttika states the argument in this form—*Bibliotheca Indica* edition, p. 126, l. 6. Later commentators 'convert' the major premise. The author of the Vārttika is of course aware of the objection to which his form of argument is exposed—that "it does not establish exclusion of soullessness in the living organism". His reply takes the form of an *argumentum ad hominem*—the objector must beg the question if he tries to adduce an instance in which the exclusion of absence of vital functions does *not* exclude the absence of soul—for he can only adduce the living organism itself.)

It is impossible to get over this difficulty without begging the question open only: for to convert the major into the required form "All soulless entities are inanimate" is to deny *ab initio* the opponent's position that some soulless entities are animate, *viz.*, the living organism.

But the question has been begged already in presenting the opponent

may still be valid inferences by presumption or implication within a system. Again it is a matter not of evidence and example, but of the agreement of ideas. The Indian schoolman starts from the view that all inference is an affair of examples. He then comes across valid inferences which refuse reduction to the normal type. He therefore invents abnormal types which are paradeigmata only in appearance, in order to provide for these cases.

These two Types are therefore of interest as pointing the moral that a view of inference [1] as subsumption under a major based on 'evidence' goes bankrupt as soon as it has to deal with reasoning that depends, not on evidence, but on the agreement and disagreement of ideas (to use Locke's phrase again). It seems to me that the whole of mathematical reasoning would have to go into the purely negative Type—with ludicrous results. If I wanted to prove that five and seven are twelve, I should probably say to myself "twice five are ten; and two makes twelve". No positive example is available, other than seven *plus* five itself. And to argue negatively that six and seven, etc., are not twelve, and therefore five and seven *are*, does not recommend itself as a reasonable alternative.

The moral is pointed so plainly by Indian logic, just because Indian logic insisted on the concrete examples which the western syllogism finds superfluous. What the Indian logician says, in effect, is: "If you are going to have an argument which you can call a valid 'syllogism,' you must be in a position to support your 'major premise' by concrete cases other than the Subject or minor term." The western student would retort: "If you have a genuine universal—a *vyāpti*—for your major, the citation of examples is perfectly irrelevant. *Your* syllogism is a cross between an indecisive analogy or argument from particular to particular on the

with a dichotomy into soulless and soul-endowed things, which is implied in asking him to admit that inanimate things are soulless. The prior question is whether the dichotomy within which the opponent is asked to make affirmation or denial is a universe of reasonable discourse at all. From the opponent's point of view it is not—and therefore he need neither affirm nor deny.

[1] Some schools admitted the existence of inferential processes other than "syllogism" (*anumāna*). One such process is *Arthāpatti*, which English translations render either by 'Presumption' or by 'Implication'. The stock example of this is: "Devadatta, who is fat, does not eat by day: *ergo*, he eats by night." (Bosanquet too would have called this 'implication'.) The nerve of the process is that the facts (*artha* = thing) force some presumption upon the mind. It is thus that you know, for example, that there is a potency in the seed which makes it grow. The orthodox school reduces *arthāpatti* to the 'purely negative' type of syllogism.

basis of similarity, and a cogent deduction from a universal principle on the basis of identity of nature."

The question cannot be profitably debated further without asking the critic of the Indian syllogism whether he supposes the major premises of *his* syllogisms to be always derived from particular cases—examples—by induction. If his answer is in the affirmative it seems to me that he has no case against the Indian view of the syllogism as an affair of examples. And Mill in his criticism of the syllogism is in fact practically affirming what the Indian formulation affirms —that the reasoning is from particular to particular, since the major premise adds nothing to the *evidence* for the conclusion. The evidence is the Examples. The critic's syllogism is then a hybrid, being no more than a *paradeigma* which conceals its humble origin in the particular by suppressing those Examples on which the Indian syllogism insists.

A subsumption of this sort, at any rate, *i.e.*, under an inductively established major, such as the Indian syllogism confessedly is, and such as our text-book syllogisms for the most part really are, is a relatively inferior form of inference: and so it has not been content to remain within its own nature, but has reached out towards more cogent forms of inference. It has done this by substituting an explicit formulation of the universal for the concrete embodiments of it from which, as *paradeigma*, it really argues: and then, in the western school logic, by substituting the purely quantitative or mathematical [1] cogency of the relation between container and contained in the place of the cogencies of real relationship which are in truth the nerve of inference.

But in thus passing from an affair of examples into an affair of quantitative relations the paradeigmatic syllogism achieves a pseudo-cogency only at the cost of ceasing to be syllogism in any sense whatever. For it now becomes the eduction of quantitative relations or correlates within a purely quantitative system; and the major premise is no longer (what it purports to be) the principle from which the conclusion is *deduced:* but becomes just one of the quantitative data from which (in accordance with *implicit* mathematical principles) a quantitative result is *educed. Quantitatively considered,* the syllogism is no more syllogistic than are such arguments as 'A is to the north of B, and B is to the west of C, therefore A is to the north-west of C'. It is as purely

[1] I think I remember the late Prof. Cook Wilson referring to 'the science of SMP' as a branch of mathematics.

'relational' an inference as *they* are And surely no light is thrown on the inner nature of all possible inferences by an attempt to throw them all into the common form of a problem of quantities—an affair of 'All and None'.[1]

With the development of the doctrine of *vyāpti* or universal connexion explicitly formulated, and with the substitution of the category of Class Nature (*sāmānya*) for Similarity (*sādharmya*) as the principle of syllogistic inference, Indian logic took the step which leads naturally to the quantitative view of the syllogism. But it developed a formalism [2] along differ-

[1] No less relational, and no more syllogistic, is the quite different type of argument from relations of identity, such as that which is sometimes adduced as a case in which the 'syllogism' plainly functions in the discovery of a new truth,—the case of the priest who has just said that his first confession was that of a murder—whereupon X enters the room and greets the priest with the remark that *he*, X, was the first person to make a confession to the priest. A is B. B is C. *Ergo*, A is C—X is a murderer. A good inference, but not assuredly a subsumption in any sense: having neither a universal premise stating a principle from which the conclusion is deduced; nor yet any 'example' adducible of universal connexion between being the first person to make a confession to this priest, and being a murderer. It is a purely relational argument, the relation being that of numerical identity. I can see no excuse at all for calling such an argument syllogistic, except the accident that it happens not to involve the *quaternio terminorum*, which is obvious in arguments like A is to the right of B, and B to the right of C.

I suppose the orthodox Indian logician would have treated this argument from identity as belonging to the 'purely negative' type of syllogism:—

"X is a murderer,
Because he is the first person who made a confession to Y,
Those who were *not* guilty of this murder did *not* make the first confession to Y—like Z etc."

And other relational arguments could be similarly treated—or maltreated. For this Type, as noted above, is a department of syllogism roomy enough to hold the whole of mathematics.

We get over the difficulty, in the case of the argument from identity, by treating singular propositions as equivalent to universals—a sufficiently uncritical procedure. We do not get over it at all in the case of the other relational arguments which involve *quaternio terminorum*: for attempts to construct a major stating the principle of the inference, whilst crowding all the data into a congested minor, may be disregarded as a confessed failure.

[2] The slight acquaintance which I have with the later developments of Indian logic perhaps justifies the statement that the formalism which Indian logic *did* develop is a far more terrible affair than anything the Western schools can boast of. It consists (externally at least) in the introduction, into definitions, of an almost incredible verbal complexity, in the form of compounds which are, quite literally, *sesquipedalia verba*. The acquiring of the habit of mind necessary for the unravelling of these syntax-less word-masses is a discipline of years, and one which I do not hope to undergo. This type of scholasticism commences with the twelfth century and flourishes to-day in the schools of indigenous culture.

ent lines, and never elaborated the quantitative concept in the manner of the western school logic. The western formalism seems to me (partly no doubt owing to its familiarity) as a very much more efficient 'dodge': though I do not think it can claim to be a more philosophical formulation of subsumption than the Indian syllogism. Indeed, the retention of the 'Example' may be regarded as having given the Indian 'syllogism' a better chance of avoiding the fate of becoming a barren thought-form than the quantitative formulation gives it: for the quantitative theory of syllogism can only re-vivify itself in a theory of Induction, that is, in a theory of Example —which is what has happened to it in the West. India, however, failed to exploit the advantage of its insistence on the Example because it used its syllogism mainly for ontological and theological reasonings—that is to say, in just that sphere of inference within which 'induction' has least scope, and in which *therefore* the paradeigmatic syllogism is least applicable.

Both syllogisms, Indian and Western, have claimed to be the universal type of inference, and in both cases the claim has been questioned. In India the term used for inference is the term used for syllogism (*anumāna*), and therefore the demurrer against the claims of syllogism does not take the form of saying that there are other forms of *inference* apart from *anumāna*, syllogistic inference; but that of saying that there are other instruments of valid cognition (*pramāna*) besides (syllogistic) inference, perception, and authoritative testimony (which with Comparison are the four *pramāna's* recognised by the orthodox logical school): but the other means of valid cognition which the critics put forward are in fact other forms of *inference*—for instance *arthāpatti*, Presumption or Implication, the stock example of which is just a disjunctive inference.[1]

Criticisms of this nature have, in India, arisen from the fact that there are types of inference in which '*Example*' plays no part. In the West they rather arise from the difficulty of finding the characteristic *three terms* of syllogism in relational arguments. In both criticisms the emphasis is laid on the difficulty of *formulation*—on the Indian view you cannot find the *example* which the *Trairūpya* requires: on the Western view, you get a *quaternio terminorum* which the Rule of Syllogism forbids.[2]

[1] See footnote to p. 410.

[2] The larger question is whether the universal always functions in inference in the way in which the syllogism represents it as functioning. The doctrine of syllogism, as universal type of inference, is that the universal acts always as an explicitly apprehended *unit* in the inference—it

On the whole the Indian scholastic has shared with the scholasticism of the West the view that syllogism is the ideal and universal type of inference. As regards the two methods of formulating it, my feeling is that the Western scholastic, with his quantitative apparatus of formalism, has been worshipping idols of the theatre not less, but rather more, than the Indian scholastic with his 'Examples'; that the *Dictum de Omni et Nullo* is even further from the truth about inference than the Indian *Trairūpya*, or Three Characteristics of the Middle Term: and that the paradeigmatic syllogism of the Indian schools is on the whole preferable to BARBARA CELARENT.

is a Member or Premise of the reasoning. There is in the mind a vast reticulation of concepts or points of view, *vyāpti's* (whether or not these are regarded as derived from prior concrete experiences); and syllogism is the process through which the special case is caught in the meshes of this net of abstractions—the logical ideal of reasoned truth being satisfied only if the universal is explicitly apprehended and formulated in abstraction from the particular embodiment of it to which the reasoning 'applies' it. That the universal sometimes functions in this way must be admitted. That it always does so seems to be an illusion of the schools.

V.—AN IDEALISTIC SOURCE OF INSTRUMENTALIST LOGIC.[1]

By Sterling P. Lamprecht.

The purpose of this paper is to show that the instrumentalist logic is indebted for several of its controlling ideas to idealistic theories of knowledge, or, to be more specific, that Prof. Dewey has utilised in his own experimentalism a number of suggestions taken over from neo-Hegelianism. Though Prof. Dewey, with his insistence upon experimental verification, is clearly and emphatically an empiricist, he does not stand in the tradition which comes down from Locke through Hume and Mill. Rather his logic is to be understood chiefly in the light of the development of certain contentions of idealism. One of the chief of Prof. Dewey's aims seems to have been to show the precise meaning in human experience of the fresh treatment of the problem of knowledge which came from the post-Kantian writers. His work may be understood as an attempt to determine which aspects or elements in the contentions of idealism have a verifiable empirical status, and to rid these suggestions of the drawback of being set in a mass of transcendental and unverifiable speculations. Of course there were other influences on Prof. Dewey, of which the most important were perhaps the psychological work of James and the evolutionary theory of modern biological science. But this paper aims simply to discuss a single influence on Prof. Dewey, namely that of the Hegelian idealism.

The points of similarity between the idealistic and the instrumentalist logics cannot be dismissed as a matter of chance coincidence. Rather there is a direct dependence of instrumentalism upon idealism. Prof. Dewey himself says in the introduction to his *Essays in experimental logic* that "under the influence of idealism valuable analyses and formulations of the work of reflective thought, in its relation to securing knowledge of objects, were executed".[2] From

[1] Read in part at the meeting of the western division of the American Philosophical Association at Chicago, 18th April, 1924.

[2] P. 21.

personal conversation with Prof. Dewey at several times as well as from the references in his writings, I feel that it is correct to say that the four idealistic authors from whom he learned most were Kant, Hegel, Lotze, and T. H. Green. But I propose to confine myself in this paper almost wholly to the relation of Prof. Dewey to Green. Since Green was interested primarily in the growth of the individual human being in knowledge and virtue, he makes the place of the individual person more important than do most absolute idealists; and so he has more kinship with a movement which, like instrumentalism, was to feature the individual. Prof. Dewey spent much time during the formative years of his life in careful study of Green's *Introduction to Hume's Treatise of Human Nature* and *Prolegomena to Ethics*. Though a thorough study of the influence of idealism upon Prof. Dewey would carry one back to Hegel and Kant, there is, I believe, a real justification for taking Green as the representative of idealism who is most important for a knowledge of the sources of instrumentalism.

I.

In treating my thesis that instrumentalism is an empiricism which owes more to idealism than to the classical British tradition, I propose to consider three main points, (1) the recognition of inference as an original and irreducible element of reflective thinking, (2) the analysis and status of the materials with which inference deals, and (3) the creative function or purpose which inference serves.

(1) In all human thinking there is, according to Prof. Dewey, an element which is not resolvable into sense-impressions or into copies or rearrangements of sense-impressions, an element which he designates an idea, meaning, suggestion, or inference. How different this position is from the historic empiricism is obvious. Locke held that the mind, in all its thinking, must deal with ideas. And for him ideas are all resolvable into simple ideas. These simple ideas are given to the mind from without, and the mind in receiving them is passive. After the mind has received its material it can operate thereon in various ways, comparing, repeating, compounding, abstracting, etc. But the mind, itself a *tabula rasa* at first, never has, at the height of its development, any ideas applicable to nature which do not come from sense. This Lockian analysis of human thinking set the terms for all future treatments of the problem. In Hume thinking is a matter of the faint copying of prior impressions: our thinking

never contributes a new idea, but repeats, only too inadequately, earlier perceptions. In Mill's *Logic* the business of thought is generally, if not always, taken to be to summarise the data of experience. General propositions are merely registers of a number of particular experiences, summaries of previous perceptions, serving as memoranda in which the nature of many experienced cases is compactly stated.[1] In Herbert Spencer's *Principles of Psychology* reason is treated as less trustworthy than perception because it is but a series of states of consciousness which faintly copy former more vivid states of consciousness.[2] Historic British empiricism has more than obeyed Bacon's advice to abjure anticipations of nature for interpretations of nature. It has invented a theory which would make it impossible for us, so far as the elements involved in a thinking process are concerned, to anticipate nature if we would. We can rearrange the materials of sense in a false way and can thus fall into error; but we can do nothing but repeat in our thinking the simple elements which have come to us in sense-perception.

Against this prosaic empiricism which makes intelligence a sort of adding-machine, idealism protests vigorously. As Green so often repeats from Kant, the understanding makes the knowledge of nature. In the simplest experience we can possibly have, there is an intellectual element brought by the mind to experience and not itself a product of experience. This is what Green likes to call "the spiritual principle in knowledge".[3] According to Green the ideas of substance and cause are not obtained, as Locke supposed, by putting together a number of simple ideas. Rather they, and many other ideas fundamental for a knowledge of nature, are formulated by the mind as a means of dealing with and understanding its experiences, and hence as an original or novel element in knowledge which comes from the mind itself. We could not

[1] *Cf.* the two following quotations from the Harper edition of Mill's *Logic*: "General propositions are merely registers of such inferences already made, and short formulæ for making more" (p. 146). "The points, lines, circles, and squares which any one has in his mind, are (I apprehend) simply copies of the points, lines, circles, and squares which he has known in his experience" (p. 169).

[2] "Reason's testimony is nothing more than hearsay gained from perception" (Vol. II., p. 442). Again: "Reasoning, however, is nothing more than re-co-ordinating states of consciousness already co-ordinated in certain simpler ways: and re-co-ordination can no more give to the results reached a validity independent of that possessed by the previously co-ordinated states, than cutting a piece of wood into a certain shape can give it a power independent of that which the substance of the wood already has" (Vol. II., p. 315).

[3] *Prolegomena to Ethics*, Book I, Chapter I.

have a notion of an objective order of nature at all if we waited for the fragmentary bits of that order which may happen to be given in the materials of experience to piece themselves together into a consistent story; yet we have such a notion, and we contribute that notion ourselves to the making of an orderly experience. The simple idea is not simple to the mind which deals with it. If our idea of the world were kept free of interpretative elements introduced by the mind into materials of sense, it would "be nothing but a simple chaos of individual units".[1] But owing to the interpretative elements introduced by the mind, our experiences are understood as experiences of a world which makes those experiences possible and which gives those experiences meaning.

It is just this irreducible and original element which Prof. Dewey regards as the central factor in thinking. Prof. Dewey would probably not agree with all that Green means in saying that the understanding makes the knowledge of nature. At least for Prof. Dewey the ideas or meanings which furnish the binding principle whereby isolated details grow into a unified whole are not imported by the mind into materials which apart from mind are devoid of all relationships; rather these meanings come to be accepted or rejected according as they are found to be justified by the natural relations in which things are discovered to stand.[2] None the less he agrees with idealistic theory that reflective thinking is the control through these meanings of our further contacts with facts. "Out of the subject-matter, whether rich or scanty, important or trivial, of present experiences, issue suggestions, ideas, beliefs, as to what is not yet given."[3] The data with which in thinking we deal come loaded with meanings. We may not understand what makes suggestions or meanings arise; but we know the fact that they are, and we use them. These suggestions are not faint copies of the data, nor abstractions from the data, nor synoptic images of past data. They are a means to the understanding of the data, an instrument for the interpretation of the significance of a situation and of its possible outcome. They constitute one of the "natural resources" of thought.[4] By means of these suggestions we transcend the limitations of the sense-data. "Inference goes beyond what is actually present, it involves a leap, a jump, the propriety of which cannot be absolutely

[1] *Introduction to Hume's Treatise*, p. 60.

[2] *Cf. How we think*, p. 82. For Green the relations, though created by thought, are yet discovered by the individual human thinker.

[3] *Ibid.*, p. 34.

[4] *Ibid.*, caption of Chapter III.

warranted in advance, no matter what precautions be taken."[1]

I remember well a meeting a few years ago of a seminar which Prof. Dewey gave on the philosophy of John Stuart Mill. At this meeting he spent some time in contrasting Mill's empiricism with his own experimentalism. Almost in the words of Green, Dewey pointed out that in Mill's *Logic* we have one of "the attempts that have been made since Locke to show that mere sensations, dumb to begin with, may yet become articulate upon repetition and combination; which in fact endow them with a faculty of inference, and suppose that, though primarily they report nothing beyond themselves, they yet somehow come to do so as an explanation of their own recurrence".[2] Prof. Dewey pointed out that there were suggestions in Mill of another theory of inference as creative and guiding. But he held that on the whole empiricism makes thinking repetitions of the past and experimentalism makes it prophetic of the future, and that empiricism makes it a derivative of sense-data which are gone and experimentalism makes it anticipatory of sense-data as yet to be sought. In empiricism inference is controlled by the materials of sense, and in experimentalism inference controls these materials. Experimentalism like idealism finds in a process of reflective thinking a novel and creative element, original in nature and not a faint copy of something already given in sense.

(2) Not simply in describing the creative intellectual element in thinking is Prof. Dewey indebted to Green, but also in pointing out the status of the data with which reflexion has to deal. Here again instrumentalism is in wide divergence from historic empiricism. In Locke we find three respects in which the terms for the empirical tradition were set. First the simple ideas are given to the mind as an ultimate material which the mind has no part in producing or determining. Secondly these simple ideas are the elements which enter into all the compounds which the mind manufactures; they are the conscious atoms which, however they come to be combined or rearranged, continue always identical with what they originally were. Thirdly, these simple ideas are a kind of testimony as to the nature of the reality which produced them: that is, they can be said to be knowledge of their causes. Though Locke defined knowledge as the perception of the agreement or disagree-

[1] *How we think*, p. 75.
[2] Green, *Introduction to Hume's Treatise*, p. 16.

ment between ideas, he also sought knowledge of real existence; and of such knowledge the simple ideas were themselves the most satisfactory possible instance. However much men may be led astray by combining simple ideas in erroneous and whimsical fashion, the simple ideas themselves are true, real, and adequate, as contrasted with other ideas which may be false, fantastic, and inadequate. This position came in Locke's successors to mean that an original perception is the surest knowledge we can hope to have, the norm or standard which indirect knowledge through ideas and inference cannot hope wholly to realise. The superior cognitive value of the original impression or sensation is a supposition which is retained even when the scepticism latent throughout Locke's *Essay* is made explicit and reality is defined as the Unknowable.

Green's attack upon the orthodox empiricism of Locke and Hume centers about the question of the status of the simple ideas. On each of the three points mentioned above idealism breaks with empiricism. First Green insists that these simple ideas are products of the perceiving mind in its dealing with things. "It is relations of which the percipient consciousness is the sustainer, which exist only through its action, that make the object, as in each case the percipient perceives it, what it is to him".[1] Knowledge begins, not with the simple idea, but "with the real thing as particularised by manifold relations";[2] and in dealing with objects, the mind proceeds, not by putting together ideas originally given as separate, but by separating out qualities from the manifold. Hence the simple ideas which Locke took to be the beginning of the intellectual process are virtually its end; and thinking instead of being a matter of compilation is one of discrimination.[3] Thus it is the mind which, in dealing with objects, brings the discrete ideas or sensations into existence. Secondly, these data are not for the finite human mind unchangeable entities submitting only to rearrangement. Of course Green's theory of the eternal mind led him to view all the data of experience as fixed parts of a timeless system of relations. "Whatever anything is really it is unalterably."[4] But the relations which constitute reality, though established by the one timeless and all-embracing thought of the eternal

[1] Green, *Prolegomena to Ethics*, p. 73.

[2] Green, *Introduction to Hume's Treatise*, p. 33.

[3] Green recognises of course that suggestions of this theory of knowledge are to be found in certain sections of Locke's *Essay*. *Cf.*, *ibid.*, pp. 33, 38, etc.

[4] Green, *Prolegomena to Ethics*, p. 29.

mind, are discovered by us in a growing experience. And to us at any rate the data are new aspects of things. Things are constituted by relations, as relations are constituted by the mind. The data are not elements taken out of a manifold in which they already existed just as they have now come to be, but are qualitatively different because of the reconstruction by the mind of the relationships in which we the perceivers stand to the things perceived. Thirdly no datum taken alone has any claim to knowledge. There is no question in Green about its being an image or copy or symbol of some more ultimate reality which produced it. It is an event which finds its meaning and becomes part of a cognitive system as it is related by the mind to other things about it.

In his analysis of the data for knowledge Prof. Dewey takes cues from idealism as Green has stated it, and opposes traditional empiricism on all three of the points just discussed. First the data of reflexion are not the original data of consciousness; they are not reproductions within the mind of realities beyond the mind. Psychologically we begin with "an undefined uneasiness"[1] and then later hunt for data by means of which to resolve our problem. The data we find are not the whole of the given realities; for those realities are too complex for us to handle easily in the resolution of our problem. They are not things ontologically "there" apart from our thinking; for they are tools fashioned by the process of reflective inquiry. We neglect much or most of the facts we started with, isolate aspects of those facts which will serve our purposes. We reach some colour, some sound, some odour, and thereby get a datum which will serve as a sign to guide inference. This datum was not given: it was not real before it was isolated and attended to. Thinking thus brings into existence the materials of its own procedure.

I remember the way in which Prof. Dewey discussed this matter in a course of lectures ten years ago on "Types of logical theory". In dealing with Locke, he held that Locke did not at all give us an "historical, plain method"[2] of how the mind thinks. Locke's simple ideas, instead of being primitive and original, are late and derived. It is quite an art to obtain simple ideas. In order to secure these simple ideas we often need highly elaborate apparatus to make more precise the observations of the unaided senses. The simple sensations are not chronologically first, but they are logically prior. That is, they are the ultimate limits of discriminations

[1] Dewey, *How we think*, p. 72.
[2] Locke, *Essay concerning human understanding*, Introd. § 2.

made under favourable conditions. Prof. Dewey could with very little modification use Green's words on this point: "A sensation apart from thought—not determined or acted on by thought—would be an unrelated sensation; and an unrelated sensation cannot amount to a fact. Mere sensation is in truth a phrase that represents no reality. It is the result of a process of abstraction."[1]

Secondly Prof. Dewey maintains that the sensation is not present in the perception in the way that an atom may be a constituent part of a compound. The datum we use as a sign in thinking was not present in the experience we started with nor is it present in the experience we end with. It is a moment in the thinking process. It is real only in its setting in the process. Prof. Dewey does not mean of course that the sense-datum has not its physical and physiological conditions whether beginning, middle, or end of the process of reflexion. He means that for purposes of effective control of the course of thinking we seek to arrange the physical and physiological conditions and thereby to get a sensation of logically simple nature. Psychologically this particular datum is no more and no less complex than any other, and certainly is not a psychological atomic state which is derived from some prior state and which is then used to build up some later state. Its connexion with its antecedents and with its consequents in the temporal succession of our experience is functional, not structural.

Thirdly, Prof. Dewey is emphatic in denying that a sensation is knowledge. Sense-data are not cognitive until employed in a process of reflective inquiry. Taken as discrete data, they do not give us knowledge of a world beyond. As Green said: "A sensation excited by an external irritant is not a perception of the irritant or (by itself) of anything at all".[2] If a sensation is taken as knowledge, it must be supposed to correspond to something else: and then when nothing is found to which it corresponds, scepticism arises as to the possibility of knowledge at all. But if a sensation is not artificially taken as a psychical replica or representative of a physical or "external" object or state, no epistemological or ontological dualism arises. Data serve us as cognitive tools, not because they point, each discretely, to their causes, but because they lead through a temporal process of inquiry to a better organisation or understanding of experience. Truth then is not a timeless correspondence between idea within the mind and object without, but a

[1] Green, *Prolegomena to Ethics*, p. 51. [2] *Ibid.*, p. 75.

function of successful leading within thinking. The traditional empiricism and the orthodox psychology founded thereon use the senses as giving testimony of objects not given in experience; but, as Green puts it, this procedure "ends by showing that the senses testify to nothing".[1] Sensations are not cases of simple apprehension. They are events with causes and consequences in a natural world; and they become cognitive only when used as steps in a process of the organisation of experience. As Prof. Dewey puts it in one of his most recent articles: "The real point at issue is whether, as long as we are dealing with isolated, self-sufficient events or affairs, anything which is properly called knowledge and object of knowledge exist. . . . My theory denies the validity of this conception. It asserts that mere presence in experience is quite a different matter from knowledge or judgment, which always involves a *connexion*, and, where time enters in, a connexion of present with past and future."[2] What traditional empiricism took as giving in a non-temporal correspondence an indubitable indication of the nature of an external world, Dewey takes as itself a real event among other real events and as becoming cognitive only in a temporal process whereby an incomplete, fragmentary, and unsatisfactory experience changes into a complete, organised, and satisfactory experience.

(3) The third of my points which deals with the creative function or purpose which inference serves, can be dealt with briefly. According to the traditional empiricism reality is prior to thought, logically as well as chronologically. Things are real first, and thought comes along later. Thought must then conform to things, if truth and knowledge are to be attained. The purpose of logic is to keep the mind in leash to things, which are ontologically more ultimate than ideas. Idealism of course has always rejected this view. The understanding, in Green's adoption of Kant's phrase, makes nature as well as the knowledge of nature. Thought reorganises experience, and thus makes it what without thought it would not be. Prof. Dewey does not here, even as much as elsewhere, follow Green closely. Idealism ties up its analysis of thinking with a theory of a transcendental mind whose thought determines reality as a whole. Prof. Dewey accepts much of the former analysis, but totally rejects the latter theory. Thus he makes thinking human

[1] Green, *Introduction to Hume's Treatise*, p. 132.

[2] *Journal of Philosophy*, Vol. XIX., No. 12, p. 315. I have altered one word in the article as printed, which I take to be a typographical error.

thinking. He denies that the goal of the intelligent reorganisation of experience in reflective thinking is a final and unalterable view of reality in an eternal and timeless mind, and treats each concrete act of thinking as relative to a given situation and as terminating in a specific goal. Taking one element and rejecting another, he transforms Green's theory of thought as practical into a practical theory of thought. Thinking is a particular kind of doing. Reflexion is not a process by which we bring to light the real nature of an object which was already apart from human reflexion just what successful thinking shows it to be; rather it is a process by which the object becomes what it was not before. Thought is not, as empiricism held, something to be contrasted with reality; and it is not, as idealism often holds, identical with the whole of reality. It is one of the many kinds of activity or change which go on in the natural world. But, as historic British empiricism failed to notice and as idealism granted only for the thought of the eternal mind, thinking, like any other natural activity, makes a real difference too. It changes things,—not things-in-general: for things-in-general do not exist any way,—but some particular concrete things, and it changes them in specific ways. Each reorganisation of thought may help the individual thinker to find his way around in the natural world. But each such reorganisation is relative to a special purpose, and serves only that purpose. Hence as long as new interests arise and men have new purposes, new reorganisations by thought will be needed. Thinking from the very nature of the case can never be final and complete: its task is never over.

In these three points above outlined, the influence of idealism in effective criticism of traditional empiricism is found in the instrumentalism of Prof. Dewey.

II.

I should like in closing to guard the thesis of my paper against a possible misconception. In speaking of certain idealistic sources of instrumentalism, I am not suggesting that Prof. Dewey may be classed as an idealist. Instrumentalism is certainly in one sense the least idealistic of the various types of pragmatism. For it does not, as most other types do, make the terms of its analysis of thinking as creative into metaphysical concepts. All forms of pragmatism have one point in common, namely, that they transfer to the individual human mind the creative control over experience which idealism gave to the eternal mind. But William

James's will-to-believe type of pragmatism became involved at times in arguing that the universe must be described in terms of life, love, or reason, or some other terms familiar to and congruous with a man's private hopes and aspirations; and Mr. F. C. S. Schiller's humanism regards the finite human mind as producing, not only certain things which otherwise would not have come to be, but nature as a whole, and thus retains much of Berkeleyan idealism. Prof. Dewey refuses to pass directly from his description of knowing to a general theory of being. He denies that in human thinking it is the eternal mind which is reproducing itself in us, or that "'the real' is an intellectual order, or mind, in which every element, being correlative to every other, at once presupposes and is presupposed by every other".[1] The error of idealism, as Prof. Dewey said in his course on "Types of logical theory" was in taking knowledge as self-constituting and self-determining, instead of realising that it is a derivative and subordinate function arising in certain situations which continue after it ceases to be. In a successful process of reflective thinking the mind reconstructs experience; but thinking is a particular kind of experience and cannot be taken as that which constitutes all experience. The human mind in dealing with a concrete problem supplies possible meanings which are subject to experimental control by future facts; but these possible meanings are often plural, always tentative, and the reorganisation they effect is new not simply in the experience of the individual but in the objective situation which the individual faces.

The influence of idealism upon Prof. Dewey might well be taken as an instance of what instrumentalism means by creative intelligence. That influence is not properly to be spoken of as "dependence". It was from the works of Green, Hegel, Lotze, and other idealistic authors, that there emerged for Prof. Dewey the problem of the nature of reflective thinking. These writings were material for his reflexion on that problem. Ideas expressed in these writings became data for him, according to the attention he bestowed upon them. However, his thinking about the nature of thinking was not controlled by these data, but was an original and significant way of handling the data. And the outcome was a reorganisation of the idealistic suggestions which eventuated in a unique theory of knowledge. The work of Prof. Dewey would surely not have been possible if he had not studied the great idealists: his work

[1] Green, *Introduction to Hume's Treatise*, p. 91.

is in a sense a development of idealism. But it is a development made possible only by reflexion upon the material furnished by idealism, reflexion which carried him beyond idealism to a consideration of the methodology of the natural sciences and of the value of certain emphases of the traditional empiricism, and hence reflexion which ended by tranforming the suggestions of idealism through their utilisation in a naturalistic and realistic view of the world. We may speak of the "evolution" of logical theory from Hegel to Prof. Dewey. But "evolution" cannot then mean a process of merely making explicit what was already implied or of repeating part of the original speculation. Only a creative intelligence could pass from the idealistic logic to the logic of creative intelligence.

In so far as Prof. Dewey has given us his views on the nature of reality, he has shown himself to be a "pluralistic realist"[1] and a naturalist. By calling him a realist I mean to indicate that he regards thinking and indeed all living processes as going on in a natural environment which those processes did not produce and which, though transformed and partly controlled by those processes, yet also conditions and makes possible their existence. By calling him a naturalist I mean that he takes the natural sciences as giving a real knowledge about the world, a knowledge which, so far from being transcended in some higher philosophical synthesis, should be taken by philosophers as a model of exact procedure. Prof. Dewey retains some of the empirical observations about human knowing which the idealists set forth without accepting the speculations in which those empirical observations are embedded. These empirical observations he considers more realistic than those of the classic British empiricism. But they do not profess to commit one to any metaphysical "-ism" or to any ontological generalisations.

With certain qualifications which I think my paper has supplied, one might say that Prof. Dewey's instrumentalism is an acceptance of what Green calls "the spiritual principle in knowledge" together with a rejection of what Green calls "the spiritual principle in nature".[2] The development of idealism in England since the death of Green has been such as to submerge the individual in the absolute, and thus to make thinking a matter, not of personal experimental activity in a more or less limited environment, but of an impersonal,

[1] *Journal of Philosophy*, Vol. XIX., No. 12, p. 356.
[2] Green, *Prolegomena to Ethics*, caption of Book I., Chapter I.

timeless, infinite, immediate apprehension. This development from Green to contemporary absolute idealism is forecast by many passages in Green himself and is undoubtedly one legitimate conclusion to which Green leads the way. But there is another aspect of Green's philosophy in which the character of human thinking is carefully examined and realistically portrayed. Perhaps it is only in instrumentalism that this element of Green's thought has been preserved in our own century. If confusion would not result, I think we might well call Prof. Dewey's theory of knowledge an empirical idealism; but if such a term were used, empirical idealism would have to be strongly contrasted with transcendental idealisms of all sorts, epistemological and metaphysical.

VI.—DISCUSSION.

A NOTE ON THE ELEATICS.

THAT there was a theology behind the teaching of the Eleatics (as also of Heraclitus) is the view of Diels; who holds, with regard to Parmenides in particular, that the Neo-Platonic commentators, if we allow for some shades of expression, did not interpret him unhistorically. Tannery and Prof. Burnet, on the other hand, treat his thought as altogether physical in its reference.

One concession must certainly be made to them, *viz.*, that the Eleatic Being (or "that which is") did not mean, as the Neo-Platonists supposed, a primarily mental reality. The notion of a reality to be defined as primarily mental arose historically with the philosophies of Plato and Aristotle. Even Anaxagoras, though he tried, did not succeed in formulating it; his νοῦς becoming, in application, only another physical agent to distribute the elements of the world.

The true state of the case, I think, is explicable with the aid of a view that I have put forward elsewhere.[1]

Xenophanes, traditionally credited with the foundation of the Eleatic school, was, according to this view, not the initiator of monotheistic theology that he is usually supposed to have been; but he was much more than the "humoristic poet" of Tannery. Though not in the full sense a philosophic thinker, he was a serious teacher. The source of his doctrine was the generalised monotheism, then becoming cosmopolitan, that had emerged as the last result of the speculative theology of Egyptian and Babylonian priests. After a millennial existence as the doctrine of a higher caste in the old polytheistic civilisations, it was liberated by the collapse or decay of the ancient empires. Taken up by the reforming priesthoods of peoples without any very elaborate inherited system, it became the central idea of the revolutionary "revealed religions" of Persia and Judaea. But these developments were divergent both from one another and from philosophy; and we are concerned at present with the history of philosophy, not of religion. Now the thing done by Xenophanes was to throw the monotheistic idea directly into Greek philosophy, hitherto purely cosmological and knowing no theology but that of the poets, which it rejected. Xenophanes

[1] See *Priests, Philosophers and Prophets* (A. & C. Black, 1911), chap. iii.

made the rejection more vehement, and, explicitly denying the many gods of mythology, became, as Aristotle put it, "the first partisan of the One."[1] He was at the same time, in succession to the earlier thinkers of Ionia, a scientific naturalist or physicist, and his monotheism is not clearly distinguishable from a pantheism for which the world is the one god. This means that he was an eclectic, not a true founder in philosophy.[2] The true founder of Eleaticism as a distinctive doctrine was, as Tannery and Burnet have shown, Parmenides, whose philosophic successors were Zeno and Melissus. But the initiating impulse came from Xenophanes.

The problem of Parmenides was to state the doctrine that reality is One, in rigorous philosophical form. Xenophanes, writing in the gnomic manner of the traditional "wise man," did not furnish him with the means of doing this. To do it, he had to invent the beginnings of the dialectic elaborated by his disciple Zeno. His appeal was to thought, to rational argument, even against what seemed the evidence of the senses. He definitely maintained that only that which can be rationally thought is truly real. He did not assert, as was once supposed, that Thought is Being; though a logical deduction from his position would be that "that which is," when there is the thought of it, thinks itself. The Neo-Platonists, in interpreting the doctrine, only went beyond it in incorporating with it this logical inference. Even then, they did not pretend that the whole of their own doctrine had been stated by Parmenides. They quite recognised that, whatever else might be in his mind, he explicitly dealt only with the being of the world; that the notion of the primal One without predicates, stated as the first "hypothesis" by the Platonic Parmenides, was not to be found in the poem of Parmenides himself.

Still the doctrine, though it was not that of the Platonic and Aristotelian schools, with their basis in the direct consideration of mind by itself, has a kind of philosophico-theological character not derived from the early Ionians. No new studies have affected the general truth of the description usually given of it as a highly abstract pantheism. The reality of the world is one, in distinction from the many perceptible things that seem to compose it. Parmenides says of "that which is" that it is like the mass of a well-rounded sphere,[3] not that it *is* a sphere. The essential contention is that it cannot be incomplete;[4] and so the best comparison of it is to a sphere. A consequence of this wholeness was stated by Melissus when he argued that "that which is" cannot suffer pain or grief.[5] This, according to the view I have taken, was no casual fancy. Melissus was reasoning in terms of the schools about something that was understood to be, in exoteric

[1] Prof. Burnet's translation of *πρῶτος τοίτων ἐνίσας* (Arist. *Met.*, i. 5, 986 b, 21).

[2] As Aristotle puts it, *οὐδὲν διεσαφήνισεν*.

[3] *εὐκύκλου σφαίρης ἐναλίγκιον ὄγκῳ* (Fr. 8, 43).

[4] *οὐκ ἀτελεύτητον τὸ ἐὸν θέμις εἶναι* (Fr. 8, 32).

[5] Fr. 7.

language, God.[1] Parmenides had set the example of avoiding the use of this exoteric language. The example has been largely followed by later philosophers, with the approval, definitely expressed, of Hegel; but we must recognise that the philosophers of the Eleatic school had this in common with the speculative theologians, that they supposed themselves to be talking about an ultimate reality not to be identified with any particular object of perception or even with the sum of perceptible things. This was the εἷς θεός of Xenophanes interpreted metaphysically.

But does not this description, it may be said, correspond equally well to that which the materialists regard as real? Prof. Burnet, indeed, has argued that Parmenides was the father of Materialism. His reality was perdurable matter as inferred by rational thought. What the ancient materialists did, from Leucippus onward, was to ascribe to their elements the characters ascribed by Parmenides to the whole.[2] The reply seems to be that, apart from the admittedly unrealisable abstraction of matter as bare possibility, anything material must be thought of as extended, as spread out or distributed in space, and that the search for metaphysical reality takes us beyond things definable in spatial terms. The question, then, about the Eleatics is whether they had reached this point or were on the way to it. Evidently they had not reached it, for the existence of which this can be asserted is mind, and with mind they did not directly deal. Prof. Burnet follows Aristotle, or perhaps goes a little beyond him, in not being willing to admit that they were even on the way to it. Yet if we try to preserve the degree of indeterminateness that belongs to this earliest abstract thinking, we may find something to say for another view. An argument for this view is that it enables us to understand the extremely sympathetic attitude of Plato, for whom Materialism was the enemy.

The same view will enable us to explain in its obvious sense a fragment of Melissus which has given the recent critics great trouble. In a passage taken by Simplicius to refer to "that which is," Melissus

[1] This is also the view of Tannery, who, however, ascribes more originality to Melissus than we need suppose if we accept, with modifications, the traditional view which makes Xenophanes the first in the Eleatic succession.

[1] Though I wrote a short review of *Pour l'Histoire de la Science Hellène* in MIND, January, 1888 (O.S. xiii., 132-134), I had forgotten this point till reminded of it by Zeller (*Die Philosophie der Griechen*, I., 5th ed., p. 617, n.); or, more probably, I did not specially notice it at the time; so that I am glad to find in it a confirmation of my own historical hypothesis.

[2] This is no doubt true for the historical derivation, but the development was by antithesis; just as, in modern times, and in the opposite direction, the immaterialism of Berkeley sprang out of the distinction between the "primary" and the "secondary" qualities of matter, adumbrated by Democritus and formulated by his successors the new "mechanical philosophers". What the physicists said about the merely sensational character of the latter, Berkeley carried over to the former.

argues that it must be incorporeal.[1] Now admittedly Simplicius had the context before him; and the apparent meaning of the fragment does not agree with the directly physical interpretation of the system. Hence conjectural explanations have been attempted. Perhaps Aristotle will put us on the right track (as Prof. Burnet finds that he does in other cases) if we avoid tying down the early thinkers precisely to the distinctions of his own "first philosophy".

In one passage he blames the Eleatics for excess of rationalism and disdain of sense-perception.[2] He also points out that they did not in language clearly distinguish between physics and metaphysics.[3] Their principles were really metaphysical, though they talked as if they could be referred to physical things.[4] Is not this in effect to say that they mark the transition to the phase of philosophy represented by Plato and himself? He even seems to class them as the first metaphysicians.[5] If it were permissible to insist on the very words of one phrase, we might say that he characterises them as dealing with the "essence of sensibles" as distinguished from mere "sensibles"; but this is probably too subtle an interpretation of a passing phrase.[6]

With the hints we have got, however, it now seems possible to explain the apparent differences between Parmenides and Melissus without supposing any change, as distinguished from development, of doctrine. When Melissus says that reality, or "that which is," must be unbounded as regards magnitude (*τὸ μέγεθος ἄπειρον*)[7] his statement is not inconsistent with the declaration of Parmenides that it cannot be incomplete (*ἀτελεύτητον*).[8] For neither the earlier nor the later philosopher is speaking of the extended world as it appears.[9] Melissus demonstrably meant to deny that its reality is bounded by something else.[10] Parmenides meant to assert that it

[1] Fr. 9, *ἐν δὲ ἔν, δεῖ αὐτὸ σῶμα μὴ ἔχειν.* Tannery also took the fragment in this sense.

[2] *De Gen. et Cor.*, i. 8, 325 a, 13: *ὑπερβάντες τὴν αἴσθησιν καὶ παριδόντες αὐτὴν ὡς τῷ λόγῳ δέον ἀκολουθεῖν.*

[3] *De Caelo*, iii., 1, 298 b, 19: *τὸ γὰρ εἶναι ἅπτα τῶν ὄντων ἀγένητα καὶ ὅλως ἀκίνητα μᾶλλόν ἐστιν ἑτέρας καὶ προτέρας ἢ τῆς φυσικῆς σκέψεως.*

[4] This seems to be implied in the sentence that follows the above: *ἐκεῖνοι δὲ διὰ τὸ μηθὲν μὲν ἄλλο παρὰ τὴν τῶν αἰσθητῶν οὐσίαν ὑπολαμβάνειν εἶναι, τοιαύτας δέ τινας νοῆσαι πρῶτοι φύσεις, εἴπερ ἔσται τις γνῶσις ἢ φρόνησις, οὕτω μετήνεγκαν ἐπὶ ταῦτα τοὺς ἐκεῖθεν λόγους.*

[5] They were the first (*πρῶτοι*) to have the thought of something ingenerable and unchangeable, finding this to be necessary if there is to be any knowledge.

[6] Prof. Burnet, in *Early Greek Philosophy*, 2nd ed., p. 203, allows some such interpretation of the words *τὴν τῶν αἰσθητῶν οὐσίαν*, but in the third edition, p. 178, he takes them more simply.

[7] Fr. 3. [8] Fr. 8, 32 (see above).

[9] To Melissus, Fr. 3, Simplicius adds the comment, *μέγεθος δὲ οὐ τὸ διαστατόν φησι* (see Diels, *Fragmente der Vorsokratiker*, 2nd ed., vol. i., p. 144).

[10] See Fr. 6, where he proves its unity from its infinity: "for if it were two, it could not be infinite; for then they would be bounded by one another" (Burnet's translation).

includes all that is. Thus if, with Simplicius, we take it that Melissus argued that that which is infinite and one must also be incorporeal, there is no difficulty about the logic of the system.[1] The attempt to think the reality of the world consistently, even without the subjective criticism of the later schools, has set thought on the way to metaphysics.

For Parmenides, the reality of the world is the object of true belief (*πίστις ἀληθής*). All that is clear from the scattered fragments of the second part of the poem is that the philosopher held the contemporary physicists to be dealing with untrue appearances. He himself treated these as classifiable (perhaps in terms of the Pythagorean philosophy) though false. What relation he supposed the constituents of appearance to have to reality will perhaps never be made out to everybody's satisfaction.[2] Plato, however, saw what was latent in the opposition, and, in the Dialogue that bears the name of Parmenides, assigned to him, by a fictitious yet justifiable development, at once a Philosophy of the Absolute and a Transcendental Dialectic.[3]

[1] When Aristotle (*Met.*, i., 5, 986 b, 18) says that Melissus seems to make his principle of unity material and therefore declares it infinite, this does not necessarily mean that he makes it corporeal; for Aristotle's own matter, which we must suppose him to have had in mind in drawing his distinction between the expressions of the doctrine of unity by Parmenides (*κατὰ τὸν λόγον*) and by Melissus (*κατὰ τὴν ὕλην*), was incorporeal. The unlimited was of course material in Aristotle's own sense, in which "matter" is opposed to "form" (*cf.* Zeller, I., 5th ed., p. 611. n. 3). What Melissus really said was that the formally complete must also be without boundary because it is all.

[2] Aristotle (*Met.*, i., 5, 986 b, 31) seems to say that Parmenides distributed the unreal appearances into pairs of opposites, one term of the antithesis being treated as less unreal, more analogous to truth, than the other; and, in the fragments, we are presented with the antithesis of light and night.

[3] Before Plato, who in his later Dialogues claims by implication to be the direct successor of the Eleatics, Anaxagoras had adopted the distinction adumbrated by them between appearance and reality; giving it a formulation about which there could be no mistake and applying it critically to defend his own quite different theory of reality. See Fr. 21 a, Diels: *ὄψις γὰρ ἀδήλων τὰ φαινόμενα* (translated by Burnet, "What appears is a vision of the unseen"). For this expression he was praised by Democritus (see Sextus Empiricus as cited by Diels, *Fragmente der Vorsokratiker*, 2nd ed., vol i., p. 322). Thus the transition to the next phase of Greek philosophy, on the pluralistic as on the monistic side, ceases to be abrupt.

T. WHITTAKER.

VII.—CRITICAL NOTICES.

Psychology and Primitive Culture. By F. C. Bartlett, M.A. Cambridge: University Press. Pp. xi, 294. 8s. 6d.

This very interesting and important book is a study of the development of primitive culture and society from a psychological point of view. But its interest is wider than this implies. Mr. Bartlett claims in the preface and at the end of the book that the study of primitive society from this point of view is to be regarded as an introduction to the study of more advanced societies. And certainly the general questions of standpoint and method that are discussed here would have an important bearing on the study of modern civilisation. One feels, indeed, that until they have been applied to our modern civilisation and to the more advanced civilisations of which we have historical records they cannot really be regarded as satisfactorily established. Mr. Bartlett would probably accept this. And it is possible that such an application would result in certain modifications of his point of view.

At anyrate, to those not exclusively interested in the study of primitive society, the discussion of the general assumptions of this branch of knowledge will appear as the most important part of the book. And it is this which distinguishes Mr. Bartlett's work for the better from much other work on the applications of Psychology. Many modern psychologists—perhaps from a morbid fear of being reproached as "arm-chair psychologists"—seem ready to confine themselves to a hasty passage from one isolated fact to another without ever stopping to think what it is all about. But Mr. Bartlett evidently has been thinking, and thinking very deeply, about the presuppositions of his science. The results of his thinking are, it must be confessed, sometimes difficult and obscure. But that is largely because so little hard thinking has been previously done on the subject. Our obligation to Mr. Bartlett is therefore all the deeper, whether we agree with him or not on individual points.

In the first chapter—the approach to the Problem—after some pertinent remarks about the vagueness and ambiguity in the present-day use of the term Psychology, Mr. Bartlett lays down as his main task the discovery of "the main tendencies towards behaviour, feeling and cognition, as these find expression in primitive society". And in his method of investigation one, at any rate, of the chief points that emerges is his absolute refusal to attempt to find an explanation of social behaviour in the experience of individual

minds, considered in abstraction from their special social environment. "Throughout this book," he tells us, "very little will be said about the beliefs, ideas, or attitudes of the individual savage." The danger which he wants to avoid here may take either of two forms. He does not wish to be led away into a futile search for absolute origins or an attempt to explain what happens in a society by something that happened before there was a society at all. And he does not wish to devote too much attention to the separate forms of mental experience which can be distinguished by analysis to the neglect of his proper study, which is their interaction in the concrete individual and his consequent behaviour in society.

The next chapter, which discusses "the fundamental forms of man's social reactions," is probably the most important in the book. It begins with a discussion of some of McDougall's views, which is of great interest and certainly in some points very cogent, though on others it will, I think, strike some people as a little hyper-critical. He then goes on to formulate his own scheme, which he summarises for us at the opening. This cannot be better expressed than in his own words. "Our basic scheme thus consists of:—A. Fundamental forms of social relationship responses: those of primitive comradeship, assertion and submission. B. Other responses of a fundamental nature having a specifically social reference: the two most important being the tendencies towards conservation, and the social form of constructiveness, or that tendency which produces new modes of social organisation. C. Individual instinct responses the social effects of which are very largely dependent upon their relations to the A group. D. Group difference tendencies which cluster about the social institutions and conventions of a particular community, and exercise a relatively direct influence upon the social behaviour of the individual."

On this basis he proceeds to investigate certain definite questions of cultural development. There is a very interesting discussion on the folk story. There is a chapter on the Conflict of Tendencies and its results. And there are several chapters devoted to the great question of the contact of peoples and its effect on the development of their type of civilisation. It would be impossible to exaggerate the interest of Mr. Bartlett's treatment of these subjects or the richness of his store of information and ideas. The wide knowledge that he shows here should help to reassure those who would naturally tend to suspect any one who thinks deeply about what he is doing of a defective knowledge of the facts.

In the last chapter Mr. Bartlett returns to the general questions of approach and method. He re-affirms his belief in the possibility of "a definitely objective method of approach. We ask," he goes on, "what are the conditions of behaviour, not what does an individual think, or feel, or desire when he behaves." For the types of social behaviour which we can group together as of the same kind are compatible with the widest differences in "the individual attitudes and experiences". He then gives us a long and very

difficult account of the meaning that he attaches to the word "tendency" when he puts forward different tendencies as an explanation of social behaviour. And he concludes with an interesting and, to my mind, entirely convincing argument against the position of those, who, like Lévy-Bruhl, regard primitive and modern mentality as differing in kind and being therefore the subject-matter of different studies.

It is part of the great interest of the book that it is full of debateable matter. And I may perhaps indicate here the main points on which I find Mr. Bartlett's conclusions difficult of acceptance.

(1) He seems to me throughout far too anxious to emphasise the objective or "behaviouristic" point of view of his study. He rejects, it is true, the extreme behaviourist doctrine that these social activities can be reduced "without remainder" to purely physiological occurrences. But what is the "remainder" except those experiences, thoughts and feelings, in individual minds which Mr. Bartlett is so determined to leave out of account? Why he is so nervous of touching them, it is not easy to see. It is true that there is great diversity among them, and that uniform types of overt behaviour may be the result of very different individual mental attitudes. But the reverse is equally true; indeed, among civilised men, at any rate, I should have thought that one found more uniformity in the feelings of the individuals than in the overt actions. And, in any case, it is as possible to distinguish the uniformities in thoughts and feelings and to group them together as it is to do the like for visible behaviour. Mr. Bartlett seems oblivious to the possibilities of this line of approach to the understanding of social phenomena.

(2) The exact status that Mr. Bartlett assigns to his "fundamental form of social relationship responses" (*e.g.*, primitive comradeship, assertion, and submission) is far from clear. He tells us that they are not merely names for relationships that may exist, but that they are "tendencies which actually operate . . . in determining the behaviour of one member of a group to others." More than once also he speaks of them as instinctive tendencies, and seems to regard them as ultimate explanations of social behaviour. It is difficult to know exactly how much is implied by this. No doubt behaviour is affected by the particular one of these relationships in which different individuals or groups stand to each other. But are we not to be allowed to enquire any further into the reasons why one of these relationships holds rather than another in any particular case? If, in all cases, we found that we merely had to recognise an inborn tendency, then this attitude might be justified. But I should have thought it clear that, in some cases at any rate, we could find a definite historical occurrence or series of occurrences which could explain why one attitude was taken up rather than another. We should find it, I think, at least as often a matter of custom or convention, which has grown up from historical causes, as a matter of innate disposition. At any rate, it would seem a perfectly legitimate

line of investigation to look for such historical causes. And I should therefore demur to the application of the question-begging term "instinctive" to these relationships.

(3) Finally, I must confess that Mr. Bartlett's account of the significance that he attaches to the word "tendency" leaves me still in the completest obscurity about what he supposes a tendency to be. It is not necessarily conscious, and therefore cannot be identical with a felt impulse towards any action. It is distinct from the behaviour to which it leads (and by behaviour here Mr. Bartlett seems to mean the mental responses of feeling, thinking and the like as well as the visible bodily movements), and therefore it can be correctly given as the explanation of the behaviour. But on the other hand it is not the permanent disposition, the mental structure, which he dismisses as a pure hypothesis, of no explanatory value. On the contrary, he tells us that "the notion of tendency . . . is always of something *in operation*." Or again, "Properly speaking a tendency not in operation, whatever it may be, is not a tendency." So that, though distinct from the activity to which it leads, it appears to be itself a kind of activity. Altogether, though Mr. Bartlett very rightly warns us against the obscurity and confusion in the ordinary use of the notion of tendency, his own treatment of it seems to me only to increase that obscurity and confusion.

There are other minor criticisms that could be made. But I should prefer to conclude with an expression of appreciation for the extremely suggestive and stimulating treatment of the subject which this book contains. Even when we disagree with Mr. Bartlett or fail to understand him, he always sets us thinking. And that is a service for which we cannot be sufficiently grateful.

G. C. Field.

Social Development: its Nature and Conditions. By Prof. L. T. Hobhouse, D.Litt., LL.D. London: George Allen & Unwin Ltd. Pp. 348. Price 12s. 6d. net.

It is interesting to compare this book with Prof. McDougall's recently published *Ethics and some Modern World Problems.* The subject matter of the two volumes is to some extent the same, and each deals with social development. But in style and temper they are widely different. Hobhouse is serene, impartial, persuasive, comforting. McDougall is stormy, biassed, dictatorial and disturbing. Hobhouse exhorts, McDougall denounces. Their very mottoes, or watchwords (or perhaps it would be more frank to say "catchwords") show the difference. For much of his time McDougall is campaigning against miscegenation, domestic comfort, race suicide, and "everybody to count as one and nobody as more than one". For even more of his time Hobhouse is pointing out exactly how communities develop in (1) scale, (2) efficiency, (3) freedom and (4) mutuality, and is making us understand what very good

things these all are. Most people will perhaps find Hobhouse more sane, McDougall more interesting. As you read Hobhouse you find yourself lulled into a pleasant feeling of gentle security. After all, the powers of the world and of life are shaping slowly a wonderful harmony, though it does not always seem to be so. As you read McDougall you are roused by the dread of impending disaster. It behoves you to become a strong man and to take a hand in shaping things. After you have finished reading the books the chances are that you will talk about McDougall to your friends, discuss his views fiercely, take sides and fight about them. Hobhouse, more probably, will remain somewhere in the back of your mind, a pleasing memory, a seed of truth, but not a very outstanding event.

Prof. Hobhouse begins his study by some general considerations about the growth of communities, and on the basis of these defines his problem. This is "to consider the nature of society and the meaning of social development. This meaning once ascertained, we have to compare it with the actual movements. . . ." He then shows how groups of men are bound together into distinct societies, and how these grow into the community, the basis of which is that man needs it "for the fulfilment of his own being". Such fulfilment demands social co-operation but it must not be assumed to lie along one single, clearly marked line of growth. "As there are distinct, and even opposed forces operating in society, so there may be more than one line of development." We must therefore try to find out exactly what social development involves, and as we do this we come upon the four principles according to which a community develops as it advances in scale, efficiency, freedom and mutuality: each of these is discussed at length. The next question concerns the general conditions of social development, and these are considered as (1) biological, (2) psychological, (3) social. Under biological conditions are ranged: the struggle for existence, the struggle of groups, and the relation of natural selection to racial progress. The psychological conditions are studied under three main headings, the first dealing with the relation between impulsive and volitional behaviour, the second with "the root interests of man," and the third with the interaction of minds. By the "social factor" Hobhouse means "the interactions of man and man, organised and unorganised, simultaneous and successive, with their specific consequences, whether temporary or enduring through generations." This in consequence leads him to a study, slightly more concrete than most of the rest of the book, of intellectual development, and of the growth of institutions. The three final chapters come back once more to a question raised at the beginning: are all the diverse lines of development which have been considered essentially distinct, or do they all take up their places in a great growth towards harmony? The answer is that they are fundamentally one, for all social change is an expression of the development of mind. There is the appearance, even the

reality, of diversity, but the diversity is that of a unitary spirit. "Social development . . . is the expression of mind in the relations of individuals under the conditions of the physical environment [and it] illustrates both the to and fro of the conflict and the underlying unity of the movement. Could the minds of men once adequately grasp the principle as a whole, there would emerge that unitary spirit—not in a metaphysical super-self but in the organic relations of individual souls—from which an orderly and harmonious development would proceed." Such a unity, however, has to be won, and is not given to begin with. Social development is but one side of a very much more comprehensive effort of Mind to fulfil itself. In so far as this effort can be realised in society it has to work out a unity of many opposing conditions. Hence many social movements appear promising but break down. "But underlying every effort, and sustaining it with the promise of ultimate success, is that unresting impulse of Mind to the fulfilment of its being which in its repeated impacts on limiting conditions holds the secret of development in every field."

The whole argument is consistently worked out, very well and lucidly expressed, and all on the same high plane; but, perhaps for this very reason, the book cannot be called exciting. One chapter, that on *Social Law and Social Science*, hardly fits properly into the frame, but all the rest are wholly in place, and, as is only right, this rationalistic book is remarkably rationally arranged and developed.

The volume as a whole, however, seems to me too general to carry complete conviction. It is perhaps ungenerous to say this, because Prof. Hobhouse himself frequently calls attention to the need for concrete treatment of his problems. But the doubt that beset me throughout my reading, and does still, is whether this volume really adds anything to the masterly treatise on *Morals in Evolution* which Prof. Hobhouse published several years ago. Somewhere in this book he remarks that he is developing more fully the theoretical parts of the earlier volume. That is true. But it does not seem to me that anything substantial has been added, and the earlier work was more satisfying because a great amount of descriptive data were provided, whereas here there is very little beyond footnotes, and even those are somewhat scanty.

Thus it appears to me that the argument passes too rapidly over many points of detail, and frequently ignores difficulties in its ardour for principles. A case in point is the chapter entitled "from impulse to will". Will comes in, in the end, in a very sudden and inexplicable manner. We have interests which endure, operating in situations which change, and expressed through impulse and feeling which are supposed to be hereditary and co-ordinate. Then thought is added to show us the permanence of the objects of enduring interests. "Thought has no force of its own," says Hobhouse, but immediately after he says that "through thought we bring the permanent object into relation to the details of

action," and thus "the passing impulse and desire are subordinated to large and comprehensive aims." This is the beginning of will. The argument seems to me extremely elliptical, and to stand in need of much careful elaboration and illustration.

Or again, when he is discussing the interrelation of human interests, Hobhouse says: "These interests, interacting and interwoven in every possible manner, underly the mass of impulse and feeling. In a very rough and raw way, the impulses are what the interests require as material, and the feelings more directly reflect the bearing of a situation upon the interests. In the early stages of experience impulse remodelled by feeling takes a more definite direction as desire. . . ." No clear illustration is given, and it is almost impossible to say what these general statements mean. How, for example, is impulse *remodelled* by feeling? Many questions of fact seem to be dealt with in this book in a much more "rough and raw" way than should be the case.

In the chapter on "the root interests of man," which is in general a very interesting one, the "constructive and cognitive interests" ought to have been far more fully discussed. They are absolutely fundamental in the scheme which Prof. Hobhouse proposes, but they are considered only at the end of the chapter, and are dismissed in a couple of pages.

Another point that requires further clearing up is the exact social significance of the distinction between a mental reticulum and a mental system. Groups are normally reticula. But if all of the individuals of a group "are aware of the whole as such . . . a higher and more comprehensive system of thought or life is developed by inter-mental relations and the co-operative product is not merely a network of minds, but a specific mental system to which each member makes a partial but articulate contribution." I confess that I cannot see how the nature of a man's social contribution is seriously altered merely by his becoming aware of his group as a whole. But this may be because I do not clearly understand how any social organisation whatever, whether its members are conscious of the whole or not, can be treated simply as a network or reticulum. So far as I can see in all social products there is some contribution which springs directly from the group organisation as such, and this may have nothing whatever to do with whether the members of the group are fully aware of the unity of the group or not.

I think Prof. Hobhouse should have tried to say far more clearly than he does, exactly what is involved in the formation and social functions of ideals. He continually talks about them, but he gives us no clear-cut study of their conditions and operation. In one place he definitely suggests this as a good subject for research, and indicates where material might be found. But he does not enter on the study. He ought to have done so. For the questions involved are exceedingly difficult ones, and Prof. Hobhouse is singularly well equipped to deal with them.

As to whether the metaphysical basis of the book is sound I feel utterly incapable of expressing any opinion. At least, it seems to me, the justification of it must be sought outside the limits of this volume. Here, it is not demonstrated but only asserted. At the very beginning (p. 63) we are told that man needs society for the fulfilment of his own being. It is no wonder then that, studying social development with this in mind, we find evidence for the gradual achievement of the ends of man, But even then whether this gradual achievement is but a part of a wider struggle of Mind which overspreads and directs all change of every kind, is a question which demands other sorts of considerations.

These are details, however. There are many others upon which comment might similarly be made. But when everything has been said this still remains a book finely planned and in many ways finely executed. In the midst of all the perturbations of our times it expresses a dignified and tenacious faith in the unity and value of all human struggle. It is full of wisdom, and in many places it sparkles with wit.

F. C. BARTLETT.

Problems of Belief. By F. C. S. SCHILLER, M.A., D.Sc. London: Hodder & Stoughton. Pp. vii, 194.

THIS volume is contributed to a "Library of Philosophy and Religion" which the publishers are issuing. In his Preface the author says he does not expect that his little book will evoke fresh thought or stimulate philosophic progress. For Dr. Schiller believes, and many will share his belief, that "our traditions and our mode of life conspire to reduce our thinking to a minimum". But one would hope, even though the times are not propitious, that this work will not be neglected; for it is written with great clearness and vigour, and deals, in a way full of interest and suggestion, with matters of vital importance to thinking men and women. Moreover, though at points it treats of things on which opinions are sharply divided, the controversial spirit is not dominant. If attacks are made, they are made on ways of thinking rather than on individual thinkers. All this is to the good; and, moreover, the volume contains a great many shrewd and relevant observations, psychological and practical. It certainly deserves to be widely known.

The problems of belief, as we are told, lie on the borderland of logic and psychology, and so may be treated from either point of view. In his first seven chapters Schiller deals mainly with the psychological aspects of the problem: the concluding five chapters discuss the logical aspects, including the tests of belief, its validity and its relation to truth. On the whole the psychological chapters seem to me the most fresh and stimulating.

In the chapter on the "Nature of Belief" stress is laid on the activist character of belief, not on the cognitive, and it is described

as "a spiritual attitude of welcome to what we take to be a truth". Certainty may be practical, intuitive, or moral. Emphasis is justly placed on doubt as a condition of progress, for doubt must have a positive ground; and it should also have a positive aim and so become fruitful. But between the extremes of belief and disbelief extends a wide region, and in exploring and describing this domain the writer is at his best. Falling within this sphere are Implicit Beliefs, Debatable Beliefs, Half Beliefs, Dishonest Beliefs, and Make-Belief and Fiction. I must here confine myself to some points of interest.

Implicit beliefs are such as are not normally stated or doubted. For this of course there are reasons, and these are often self-interested. Beliefs on which our own self-esteem is founded are usually implicit, and we may not be fully conscious of them. "The selfish man may well be genuinely surprised to hear himself reproached with 'selfishness,' the vain man with 'vanity,' and the dishonest man with sharp practice." On the other hand intellectual beliefs are not usually implicit. In contrast to implicit beliefs Debatable Beliefs "are consciously held, and can be intelligently defended, while they flourish in an atmosphere of controversy." The chapter on Half-Beliefs is particularly good. A full belief may become a half-belief through the fading of mental interest and the direction of the mind's energy into other channels. In the sphere of religion beliefs of this sort are rife, and largely owing to the part played by authority. Normally, we are told, belief in a future life is a half-belief, for it is largely a response to an intermittent stimulus.

When we come to Dishonest Beliefs we find the position is different, for the claim to truth has no aim at truth behind it. Beliefs of this sort are fostered by some on the plea that it is for the good of the world that people should think in this fashion. So "Politics, for the moment, still seems to be the art of fooling the people," and "current belief in a 'liberal education' has become replete with dishonesty and cant". The situation in the region of Make-Belief and Fiction is otherwise. So-called 'scientific fiction' really stands for assumptions which are useful for calculation, and, taken as hypotheses designed to prepare for experiment, they may fulfil an important function.

As we might expect, in this part of his work Dr. Schiller emphasises vigorously the subjective and activist character of human belief. But what he says on the psychology of our beliefs is in the main so sound and pertinent that it might be accepted by thinkers of any school. The same naturally cannot be said of the chapters where the logic of belief, the tests of its validity and its relation to truth, are discussed. Dr. Schiller's opinions on these matters are well known, and are here energetically and plausibly urged. It may suffice if I direct attention to one or two points of importance.

The idea of the 'will to believe' has sometimes been criticised

rather unfairly, as though it led to the conclusion that an individual might make a belief true simply by accepting it and loyally acting on it. The chapter on this subject should help to clear away this wrong impression. Though the 'will to believe' is a pervasive psychic fact, it does not follow that our beliefs are wholly volitional, and the fact that we desire to draw a certain conclusion should make us critical. The 'will to believe,' it is argued, ought to be correlated with the will to know. And while the genuineness of a belief is tested by the will to act upon it, it is an exaggeration to say that this is the sole criterion.

On the other hand Schiller insists strongly on the volitional character of our beliefs, and finds they must ultimately be conceived in their biological setting as vital reactions. They are developed in the interests of life, and if they are sometimes involuntary, this is only a secondary result of their evolution. The notion that they are forced on us by a kind of external necessity is declared to be false. Many will feel, however, that the writer unduly magnifies the subjective factor in belief at the expense of the objective. The sense of constraint which accompanies belief is largely explained, I think, by our constant assumption that we have to deal with an objective order which we do not create. Often we wish to believe otherwise than we do, but we cannot. It may be, as Schiller contends, that there is no absolute necessity in things, but this hardly meets the case. For the facts of the objective order are data so far as we are concerned, and our control over them is strictly limited. Hence our belief must so far be determined by the objective order, an order which we accept but do not make. Again the fact that an absolute criterion of truth is not in practice available need not debar us from finding the notion of correspondence at one level, and of coherence at another, to be serviceable. It would be pedantry to deny that we judge the truth of a photograph by its correspondence with the original, or that we often test a belief by its coherence with the body of organised knowledge. Sometimes such tests are not available: in religion, for instance, there are beliefs for which the pragmatic test is the best at our disposal. It is true that we are not the slaves of an external order, and the environment may prove in some degree plastic to our formative will. But here too there are limits; and man has often to deal with data which he can interpret but cannot shape to his own ends.

Dr. Schiller's remarks on Truth and Survival-Value deserve to be carefully studied. He recognises that natural-selection is not a creative principle, nor in any sense an adequate explanation. Survival-Value cannot be taken absolutely to determine truth, for if that were so the trend of nature would have to be perfectly definite and unambiguous, and allow of no alternatives. But this is not the case: we are therefore free to choose our belief and to hold that we are players and not mere pawns in the cosmic game. Hence man has power to deal with the situation which confronts him,

and "natural-selection is best interpreted as a mechanism in the full sense of the word—*viz.*, as a *means* of adjusting an adaptation (or a 'truth'), already in being, to the continuous changes of reality". So in process of time our 'truths' have to undergo transformation of meaning. "And the pressure which induces us to transform it is precisely that of the changing survival-value of the belief." With what is said about the reality of human agency and freedom I cordially agree. Yet this freedom is limited at the best, and must work in terms of the possibilities offered by the objective order. And the survival-value of a belief depends as much on that order as it does on the needs and purposes of the subject which emerges within it. This would hold even though "the real is not wholly rigid, and *the way we take it* makes a difference".

I have ventured to indicate one or two points where the arguments of the book fail to convince me, and no writer, and least of all a Humanist, will expect an unvarying assent to his views. But it is right to add that this volume, combining as it does keen analysis with vigorous thinking and fertile suggestions, deserves to be widely read, and that not merely by philosophers but by the intelligent public.

G. GALLOWAY.

A Philosophical Study of Mysticism. An Essay. By CHARLES A. BENNETT, Assistant Professor of Philosophy in Yale University. New Haven: Yale University Press, 1923.

The Philosophy of Religious Experience. By ERIC S. WATERHOUSE, D.D., M.A., Professor of Philosophy, Richmond College, Divinity School, University of London. London: The Epworth Press, J. Alfred Sharp.

IT will be generally agreed that it is no part of a reviewer's business to interest his readers outside the books he is reviewing. But there is a desideratum so clearly left out from both of the works here to be considered, that, for anyone to whom the point seems vital, it is difficult to avoid letting a review of them degenerate into a discussion of it. The point I refer to concerns the question as to how philosophy may go about, in the present year of grace, to do something more with religious experience than simply interpret the purport of it. The *vindication*, as distinct from the mere *interpretation*, of religious experience has always been one of philosophy's ambitions. It used to think it could accomplish it; witness the time-honoured ontological argument. And it is a question of interest whether philosophy is continuing, in this regard, to rise to its ancient conception of itself, and is taking full advantage of such means thereto as modern research is making available. So far as the two books before us are typical, it would seem that it is either

not doing so at all, or, if it is, it has not as yet got much beyond the very beginning of the enterprise.

We may begin with the remark, however, about the books themselves, that considered outwith this point, considered that is to say simply as interpretations of the purport of religious experience and not as estimations of its truth, they are intrinsically very different; and it is quite important for the reader who would not miss the interest of either of them, to realise the difference. Roughly, we should incline to put it at this. The common field of both is philosophy of religion; but while Dr. Waterhouse offers us an introduction to it, Prof. Bennett attempts something like a contribution in it. The latter writer may perhaps be said to mediate the contribution to us rather than to make it himself; but if so, this is a minor matter. In any case, what is in his book is of that nature; and, subject to the consideration that every competent introduction is necessarily also something of a contribution, and that Dr. Waterhouse's work has every mark of competence, the general distinction just drawn expresses pretty fairly a difference in the two works which is there, and which may safely be allowed to shape the reader's expectations as he addresses himself to the reading of them.

Of course—entirely seriously—every competent introduction *is* something of a contribution; and this is very true of the introduction-and-survey from Dr. Waterhouse's hand: so much so, that even to use the word "survey" of it is hardly enough; it being so much of a systematisation, and a fresh and skilful systematisation at that.

Dr. Waterhouse has done his book into two "Parts," a "Part I Psychological" and a "Part II Philosophical." In the "Part I Psychological" he has treated first of religion as an experience and next of what the experience refers to; so that, as ever, the "philosophical" tale must start before the "psychological" can get itself properly finished. His "Part II Philosophical" is also in two halves, not quite so successfully demarcated, perhaps; the one being concerned with the "verification" of the religious postulate; and the other, under the title "Religion and Reality," treating, apparently, of the postulate verified. Thus the book as a whole, in the course of its fifteen chapters, lays almost equal weight on the two questions, (*a*) what this thing which we call religious experience is and what it has done, first and last, in the evolution of man; and (*b*) the other, more philosophical question, what interest a man may find in this experience in so far as he is merely out in pursuit of truth. The Author makes it quite clear that the pure truth-seeker is only interested in religion as in something whose evidence he must hear; and by its evidence we are to understand what it has to say when it has come to its own maturity. The crude lispings of its undeveloped forms are not its evidence. That about which it testifies is, of course, reality. Moreover, the character which it

ascribes to the r.al or the postulate which it ultimately makes concerning it, is conceived by the Author, in agreement with much of the best current doctrine, as the harmony of existence and value, the postulate that the universe is responsive to man's search for what is good. This gives us very roughly the general doctrine or position in religious interpretation, which to substantiate would appear to be the goal which the Author has had mainly before him in writing his book. *En route* to this end, he has occasion to lay various current theories of religion under contribution; hence the high introduction-value of what he has written. No inconsiderable further addition to its merits is the comparative success with which it has been written "in a language understanded of the people."

The desideratum, however, to which we refer is one that remains AFTER ALL THAT IS SAID IS SAID, on what is really the main theme of the book; namely, how this religious attitude may be philosophically estimated and judged.

The matter at issue is thoroughly well expressed. One of Dr. Waterhouse's strong points, whether he can answer his questions or not, is that he can put them. Having shown us *what* the religious consciousness testifies concerning reality, he next allows the question naturally to arise upon us, whether (p. 151) "philosophical inquiry can judge this evidence to be consistent with a critical conception of reality"; and herewith we are at once athwart the ancient labour which philosophy has always been ambitious to undertake. This is the kind of question to which an answer is enshrined in the ontological argument. This is the kind of question with which the moral consciousness confronted Kant. And what we would ask is, have all the means been exhausted wherewith to relieve of its appearance of unsatisfactoriness, the kind of argumentation by which this sort of question is usually followed in philosophical discourse?

For there is an at least apparent unsatisfactoriness. Kant himself is a conspicuous instance. He is out to vindicate the moral consciousness. The feature of it, he finds, when he gets it pure and quite unsophisticated, is that it thunders at him with a Categorical Imperative. Upon this, the critical philosopher in him, and perhaps the moral renegade in him—if there was anything of that in Kant!—begins to ask, But how, precisely, is such an imperative possible? meaning, how can it possibly be binding? And he says we must understand. But having put the question so bravely, and claimed the right of reason against all comers, what does he proceed to do, to show a Categorical Imperative possible? What except simply to talk about it and about it and about—I am thinking of the second and third Sections of the Metaphysic of Ethics—so long and so bewilderingly, and withal so tragically earnestly, that the anxious reader after many fruitless efforts to make an argument of what has been said gives it up in despair or else begins from sheer exhaustion to feel that the point

must surely have been made! It will be said that this is caricature, and perhaps it is; but it is at least genuine caricature, exaggeration of something the appearance of which is really there in the book.

And it is a feature which runs like a family likeness through most philosophical discourse upon this sort of question. It is a feature, indeed, let it be said at once, from which Dr. Waterhouse's discussion is about as free as it can be. But there is a reason. It is simply because, by virtue of a certain native lucidity in his writing the fact which is always the tap-root of this sort of trouble, has been allowed to appear with some sharpness of outline. Not that it is in any sense a removable fact; being, at root, simply that inevitable circularity which always attaches to this type of argument. Just because religion itself is ultimate, any philosophical argument in vindication of its postulates must partake of the appearance of a logical circle. So far as logic goes, our resource is only to take care that we do not, as Kant does, allow the circumstance to seem to surprise us; but, on the contrary, be beforehand with it, avow it, anticipate it in the course of our discussion, and if we can, like Green, attempt a rationale of it. If, for instance, we interpret the ultimate postulate of religion, with Dr. Waterhouse, as the harmony of value and reality, then any argument that there is in vindication, must consist in saying with him that unless we are allowed to regard the real as the valuable, what we apprehend as the true nature of things will not be real either. But you don't establish that,—Dr. Waterhouse doesn't and nobody can—without somewhere already implying that the real is the valuable. Verifications of the religious postulate have inevitably this way of turning themselves round into something very like the mere lame acceptance of the postulates which were to have been verified.

But the question is persistent, whether philosophy be taking full advantage of all the means outwith the domain of formal logic which the present moment offers it, of relieving itself here, by showing up the *de facto* reasonableness and naturalness of taking the positive alternative in this dilemma as the true one. In plain words, is philosophy mustering as it could the extra-logical reasons that there are for accepting rather than discarding religion's testimony as to the nature of things?

A necessary preliminary here is, no doubt, that it should undertake some straightening-out of our conception of what religion really says. For it is at least problematical whether these two questions, the psychological one as to what the religious consciousness says, and the philosophical one as to whether it is true, distinct as they are, can be separated. It is highly probable that if we are to have any better answer to the second we shall first have to see whether any different answer to the first be forthcoming, such as would render it possible. And if this different answer to the first question is to be of any use it must, of course, not only be different from rival interpretations of religion but must differ only as being straighter and better when regard is had to the facts.

Now, in the point of view in the philosophy of religion which is represented by Prof. Bennett, we will not say that this different and truer interpretation of the purport of the religious consciousness has been reached; but it does seem to us to be approximated.

Prof. Bennett, it may be of interest to say, belongs, by all his sympathies and affinities, to what one may almost already call the "school" of religious interpretation which is associated with the work of Prof. W. E. Hocking of Harvard. And the difference—or one vital difference at least—between the interpretation put upon the religious consciousness by those who are of that way of thinking, and the one favoured by such a writer as Dr. Waterhouse, is that while they would perhaps agree with him that the religious consciousness has, in some sense, for its object, value and even the totality of value; they would not agree that when it is boiled down to the concrete, the actual religious injunction to us—the religious imperative, so to speak—was simply that we keep gathering up the values. To them, it might be said, it far more consists in quite the opposite thing; in an injunction to us to sit loose from them all and neglect them. Religion, properly so called, may conserve values. But that is the only way it has got of doing so—neglecting them. And also, perhaps, it is the only way that EVER really works.

Much more than this—much more than the synchronisation with a general point of view—is in Prof. Bennett's work. And it is to our great regret that space forbids our doing any kind of justice to his lovingly written and beautifully bound and printed volume. If it were permissible to tread roughly over ground which the Author has traced and limned so delicately, we should say that in the "study" he has given us, after having deliberately selected his mystics and defended himself for doing so, he proceeds to offer some construction of mysticism—the authentic mysticism of a Ruysbroeck, a Teresa, or a John of the Cross—under such headings as (*a*) "The mystic ambition"—what the mystic would be at, as one might perhaps say; (*b*) the truth which comes with his arrival at it, "Revelation"; and (*c*) concerning this which the mystic has arrived at or attained to, how it operates in his characteristic struggles with the inner and outer problems of life, and would if we could acquire it operate in our own.

The point of interest, however, is the turn which Mr. Bennett's whole school of thought gives to the interpretation of the religious consciousness. It is only in the nature of the case, of course, that one should be much more clearly conscious that a turn has been given, than confident of being able to express it. But at least it is all *as if* this line of interpretation had been bitten deeply by the fact that the mystic—first and last and all through—is a renouncer of the world; and secondly that it is in this that he is most typical of the authentic religious spirit. The mystic is one who renounces what other men value. He may not miss much. Indeed, as we are here being asked to understand the attitude of his mind, he

is himself convinced that he does not miss anything. The language which typically describes the mystic-ambition-fulfilled, is language which suggests attainment of what all the ordinary ambitions of mankind are really for. But all the same, the mystic's back is towards these ambitions. And that is precisely and solely why he can claim to be in the position which he thinks is his—that is to say, in possession of all which ordinary men really want.

One corollary of all this, is that there is a definite and express religious attitude. There is a distinctive religious interest. Religion lives upon an express turning away from the interests of this world and a setting of the face towards another; an attitude entirely different from absorption in these interests; an attitude, therefore, which cannot "constitute" those interests but must alternate with them. It is within the systole and diastole of this alternating int rest that, in the last resort, all of even normal human life is conducted. That this is the situation in social life some of our best social thinkers have been clearly, if somewhat modestly and self-mistrustfully, feeling. (I am thinking here, *e.g.* of Prof. Urwick's apologia for a social philosophy as distinct from a social science; which I take to be a symptom of the same tide that is setting in elsewhere, and of which we have a manifestation in the book before us.) The point is that what is seen in the mystic is merely—but in unusually sharp relief—the analogue or spiritual parallel of a fundamental alternation which pervades all life down even to the physical level, and whereof the heart-beat itself may well be considered as a manifestation. If this is so, then the mystic is simply an individual who happens to be physically and spiritually specially delicately attuned; *and the presumption is that, being tuned up to finer issues, he has the more authentic contact with reality.* If Prof. Bennett is right, this is virtually the presumption in the mystic's own mind, so far as the latter lends itself to verbal and conceptual expression. And he urges this interpretation of the mystic's mind, as preferable to Hocking's, which would regard it as desirous of some form or phase of Power. The mystic desire, he suggests, is rather simply reality. He would be real. The author acknowledges, of course, the vagueness of the idea, and defends himself.

> The desire to be real! That, I admit, in spite of our attempts to elucidate it, is not a very promising formula for the mystic ambition. . . . Yet, in the search for more clarity and precision, it is well to remember that there are necessary limits to what we may hope to achieve. We can never clear our renderings of these ultimate concepts from vagueness and impressionism. Anything that could be defined as the highest good would not be the highest good.

But now, to return to our original question, wherein, if in anything, consists the essential reasonableness of taking this peculiarly attuned body and mind which we have in the mystic as the one to be trusted *above* the commoner clay, in the testimony it offers in regard to that which it concerns us most to know; and

why not relegate it to a position far *beneath* the same? What can we point to, to justify the use of the word "real," for instance, in all these connexions? Wherein is the mystic "real," and his apprehension or rendering of that with which we ultimately have to do, the "true" apprehension or rendering? In view of the basic fact that man has had an evolution, is there not a feasible line of answer possibly to be got out of the simple hypothesis that we have here the type of mind, pre-eminently, which has preserved its contacts; meaning by "contacts" psychological experiences; and meaning by psychological experiences, again, simply those multitudinous experiences-of-the-journey, which have punctuated our evolutionary course, those finger-prints left upon us, by the many environments, through successive adaptation to which we have arrived at our present mental and physical shape? Isn't it possibly in the mystic that all these are awake? or rather, are at one and the same time awake *and home?* For we did not see any more than one phase at once (of the eternally real, strung out along the thread of time) as we came up the long and winding evolutionary path. But we have travelled through a lot of reality, first and last; and isn't it possibly the mystic whose old experiences are awake and who is approximately in touch with it all? It is merely a matter of taking the racial experiences-of-the-way as contacts-with-reality; and we are in the presence of a view to the effect that the attitude of mind which we find *in excelsis* in the great mystic is one attuned to the pitch of simply *being able to effect specially wide contact with the real;* one gifted with the gift of touching it at an unusually large number of points in one harmonious touch; and, in that sense, of itself coalescing with the real, and of giving us reality too, in so far as we can enter into it and, as it were, lie along it. For what else *is* the mystic, really, than one in whom the old contacts are restored? Restored, they are. Of course, if we may take one good word out of a bad vocabulary, they are restored "by way of sublimation"; but they are, just on that account, restored in the context of other contacts, and so in a manner fit to mediate their portion of the real whole, not fragmentarily but as it is. We may perhaps put it from another angle. Religion is surely, in one aspect of it, "salvation"; and what is that except a state in which experiences which were crushed—or rather which had to be *either* crushed *or* let out to work havoc as self-centred forces—are restored saved? That, surely, is the kind of thing that the "salvation" in question is. That is "salvation from sin". For instance, to take the one illuminating example that it never pays to hesitate to quote, a man may have almost more than he can carry of the burden of sex, and be saved from it by religion. And if that is so, then, what is the rationale of the position? What has happened to the burden? Quite simply—in getting religion he has found a place where to put it all. Now it is only taking experiences—the massive typical race-experiences which mark the great mile-stones on

the psycho-genetic journey—to be so many contacts with reality; and we shall find it no straining after a faith, but on the contrary the merest reasonableness, to see in this "saved" attitude just *the getting of the real approximately entire or whole.* For this sort of "salvation" from his trouble is different from what the man would get, say, in a life of license; which, of course, would also give him "a place where to put it all". But in that case he has no place to put the rest of his mind. And he must have that too. He wants whole-rest. He wants all the demands of which his nature is conscious satisfied, and not only some of them. He wants all his instincts home. He must be caught-up entire. He must get right home to the heart of this Ultimate, which, strung-out in time, has for some obscure reason been only titillating various sides of him all the way down the journey, and never fairly meeting him till now.

But will not this route towards the satisfactory equation of the religious consciousness with full consciousness remain of necessity more or less closed—we fear very much that it will—except to an attitude able to meet the whole of those newer psychological studies which we are now calling psycho-analytical, with a sympathy much more broad and free and untroubled, than anything that is present—or at least than anything that is very visible—in either of these two books? We leave that to the reader. In our own view it simply will not do to pass Freud and Jung and all that they stand for, with a few non-committal notes, as Dr. Waterhouse does; or with a few unsympathetic ones, as Prof. Bennett does. It is less unexpected in the former perhaps than in the latter. For while it may be doubted whether those whom Dr. Waterhouse follows have any room for the facts and theories of this school of psychologists, there can be very little doubt that those with whom Prof. Bennett's affinities lie really have. And so convincing to the contemporary mind have become some of the characteristic contentions of this latest claimant to the title "psychology of the unconscious" that it is doubtful whether there is any more promising path open to the philosophy of religion than to reveal how these explorers have fallen among the religious facts; and, having revealed that, to proceed to get their discoveries right-way-up. That is the relief that a generation almost swamped in an avalanche of sex-psychology is waiting for. But it is not an enterprise that anybody can play at. Our thought must really take this thing seriously. It must make up its mind really to go to school for a while to another way of thinking. There is no other way. It will not do merely to stand pirouetting on the bank of this current, "studying" it. We must fall in. And we must then trust to luck, as to whether or not we are going to struggle out again. We shall certainly lose our souls if we don't. But we must take the risk. We must go down to the very place, if one might perpetrate still another change of metaphor, and actually see the devils tremble, before it will begin to dawn on us in any really effective way, what

they are trembling at—or whom. And that, I think, is what more people than one would perhaps imagine, would be interested to know.

J. W. Scott.

Proceedings of the Aristotelian Society, 1922-1923. New Series, Vol. XXIII. London: Williams & Norgate, 1923. Pp. 289.

Relativity, Logic, and Mysticism. Aristotelian Society, Supplementary Volume III. London: Williams & Norgate, 1923. Pp. 184.

The second of these volumes contains the papers read at a joint meeting of the Aristotelian Society, the Mind Association, and the Scots Philosophical Club in July, 1923. Most of the papers are contributions to Symposia, of which there are five, but the volume is introduced by a paper on the philosophy of Theodore Merz by Prof. F. B. Jevons, and there is another separate paper by M. Léon Brunschvieg on 'The Relation between the Mathematical and the Physical'. In this paper M. Brunschvieg first sketches briefly the changes of view as to the relations of mathematics and physics which have taken place in modern times, and which may be indicated by the names of Descartes, Kant, and Einstein. "The problem of mathematical physics has definitely and radically changed its meaning: it no longer needs to impose *the apodeictic form of geometry on the world*, but *to adapt a certain type of geometry to the indications which the universe furnishes on its own account*" (p. 45). The second and longer part of the paper asks what consequential changes are involved in our view of the province and work of human thought, and argues that thought is to be conceived, not as revealing a transcendent reality, nor as imposing laws on nature, but as gradually working towards an objective reality by learning how to make allowances for the relativity and variations of individual perspectives in knowledge.

Among the Symposia the purely philosophical reader will perhaps turn first to that by Moore, Stout and Dawes Hicks on the question: "Are the characteristics of particular things universal or particular?" Prof. Dawes Hicks speaks of the issue as "important and fundamental," and no doubt problems of a fundamental kind are involved, but as regards the particular issue the reader may be inclined to suspect that the disputants are to some extent at cross purposes, and that the difficulty is largely one of finding a formula which will do equal justice to all the facts of the case. Prof. Stout, it seems to me, is mainly impressed by one fact, *viz.*, that when we attribute a quality, say the colour red, to two objects A and B, the red colour present in A is plainly different from that present in B since they are actually in different places. Hence it seems that when we say both of A and of B, that this object is red, we cannot mean that literally the same red is present in each of them. Dr. Moore, on

the other hand, is mainly impressed by the other fact, that when we assert both of A and of B, that this object is red, we do mean to make precisely the same assertion about both of them, that they are red and not green or any other colour. But is there anything to prevent us recognising both facts? Prof. Stout argues that according to Dr. Moore the red colour of A is 'numerically identical' with the red colour of B; and possibly Dr. Moore is not expressing himself very happily when he says that "one and the same quality *can* be in two different places at the same time" (p. 106). But surely the point is that when we say that A and B are of the same colour or are both red, we are referring not to numerical but to qualitative identity. Considerations of number or place seem to be irrelevant when we are speaking of the quality as such, although of course we cannot assert qualitative identity unless there are at least two instances between which it holds. When we speak of 'two reds' we mean as a rule two shades of red. We may say in so many words, *e.g.*, in matching colours, 'these two reds are the same,' but we then mean that the two instances of red colour are identical in quality. Now surely we do not mean by this that the two reds are of the same kind or class, as Prof. Stout would have it. We could say of the two shades of red that they are of the same kind, because while they are both red the rednesses are different. But such judgments about kind or class are more complex, presuppose the simpler judgments of qualitative identity and difference, and cannot be used to explain them. I suppose Prof. Stout would call red regarded in relation to its shades a "generic kind of quality," and perhaps the difficulty which he raises in regard to such qualities serves as the best test of his general view. If we regard shape as a common or identical quality of all shapes, "we ought to be able," he suggests, "to discern in a square shape two qualities, squareness and shape;" whereas this is impossible, "the squareness is identical with the shape" (p. 118). For greater clearness let us substitute 'rectangularity' for 'shape': every square is a rectangle as well as a shape or figure. It is plain that the equality of the sides is a property additional to the rectangularity, and that we can distinguish the consequences which follow from this additional property from those which follow from the more general fact of the rectangularity of the figure. We might be able to prove of a certain rectangle that its sides were equal and that it was thus a square. In such a case we plainly can discern the two qualities, and there seems no difficulty in holding that in like manner squareness is really discernible from shape, although naturally it is not discernible from *the shape of a square*. Prof. Stout says that on his view the difficulty disappears, that is to say, "if we take shape in general as the name of a class of qualities, and squareness as the name of a sub-class, squareness then simply means the special sort of shape which we call square." But must not the difficulty, if there is one, that arises from the relation of a more general to a more special determination, appear on any theory?

And if there is only one quality in the case, how can this one quality give rise to a double classification? If we cannot distinguish between shape and squareness, we ought to stop short at squares and circles and not talk about shapes at all. It seems indeed impossible to understand how we could come to constitute any class at all except on the basis of variations of an identical quality. Prof. Stout says that he regards the distributive unity of a class or kind as ultimate and unanalysable. But this difficult doctrine seems to be asserted not so much for itself as because it is the only way of avoiding the absurdities of the confused notion of a 'numerically identical' common quality. If I have understood Prof. Dawes Hicks rightly, the above criticism is largely in agreement with his views.

The Symposium on 'The Relations between Biology and Psychology' makes very interesting reading, not on account of any special novelty in the views set forth, but rather because three divergent types of view are so distinctly exhibited. Dr. J. S. Haldane's general view is well known and is here set forth with great clearness. Using the term psychology in a wide sense in which it becomes equivalent to the philosophical analysis of conscious experience in all its concrete fulness, he regards biology and physics as arrived at by successive abstractions from this more inclusive point of view. Biology abstracts from the consciousness through which the past and the future are brought into direct relation with the present, and through which alone therefore the world of experience is possible. Physics abstracts from the teleological unity in terms of which alone living organisms can be understood. As a biologist, then, Dr. Haldane regards his science as occupying an intermediate position, and in his interpretation of the facts of life he rejects, on the one hand, the merely mechanistic conceptions of physics, and on the other hand, the animistic conceptions of those who would superfluously invoke the aid of psychology to interpret merely biological data. Dr. E. S. Russell agrees with Dr. Haldane in rejecting a merely physico-chemical method as hopelessly unable to deal with the characteristic problems of biology, but disagrees as to the alternative. Dr. Russell thinks there is no middle course between treating the living thing as a mechanism and regarding it as having properties of a psychical kind. But he admits that when we pass from the outward behaviour of animals to their internal processes and to plant-life the analogies drawn from human life and consciousness desert us, and that some vaguer conception of a monadistic kind must take the place of one drawn directly from our conscious experience. One would think that this vagueness of the conception would seriously impair its explanatory value. Sir W. Leslie Mackenzie may be taken as representing the mechanical theory of life, since he is mainly concerned to ask in as definite a form as possible the question, why such a theory of vital phenomena should be pronounced inherently impossible.

Now Dr. Haldane might very justifiably refuse to trouble himself about this question and content himself with saying that teleological conceptions are found in actual practice to be at once more applicable and more fruitful. But he evidently goes beyond this in his own mind, and we may therefore sympathise with Sir W. Leslie MacKenzie's desire to understand more clearly how we are to conceive the relation of the teleological processes to the physico-chemical properties of the matter in which they take place.

In the Symposium on 'The Problem of Simultaneity' the discussion centres about the paradox involved in the doctrine of the "orthodox Relativists" as to "the permanent relative contraction of time". Prof. Wildon Carr's view seems to be that we must admit the paradox, and accept as a consequence that there are no objectively fixed standards of spatio-temporal magnitude. (He quotes the illustration of the traveller imagined to leave the earth with a velocity approaching that of light. The traveller, if he continued for a year, and then returned with the same velocity, would find, we are told, that the earth in his two years' absence had aged two hundred years). According to Prof. Wildon Carr our solid fact is to be found in subjective or psychological time, "time lived" in the experience of monads, and these monads form a universe in so far as there is a functional correspondence between their temporal experiences. Profs. Sampson and Whitehead seem to agree in holding that there must be something wrong about the paradox or its interpretation when it is taken to lead to such consequences as those involved in the case of the imaginary traveller. Prof. Sampson insists on the fact that all the calculations of applied mathematics are hypothetical, so that, if they lead to absurd results we must always turn back and see where an error has crept into our assumptions. He thinks he has detected such an error, but reserves the technical discussion of the point. Prof. Whitehead seems to hold rather that the error arises at the point where the Relativists begin to apply their theory to our actual experience, and that they have not really thought out the question whether on their own theory any satisfactory meaning can be given to those comparisons of times which land us in the paradoxical results. In his view "all the difficulty arises from the denial of simultaneity as a fundamental fact of awareness" (p. 38). How far he agrees with Prof. Sampson he does not say. But on one point, at any rate, which specially appeals to the non-expert reader, they seem to be substantially agreed, *viz.*, that if in the case of the imaginary traveller time-relations are distorted on the outward journey, they will undergo an equal and contrary distortion on the return journey, so that, when he lands on the earth, the earth will have aged no more than the two years which he is supposed to have spent on his magical flight.

The fourth Symposium debates the question whether Neo-Idealism (the idealism of Croce and his school) is reducible to Solipsism. But the debate labours under the disadvantage that no one ap-

parently could be found to represent with conviction the doctrine of neo-idealism itself. Mr. Joad answers the question in the affirmative; the criticisms by which he seeks to establish his contention are clearly and concisely stated, and he concludes by contrasting neo-idealism unfavourably with a more orthodox type of Hegelianism. I should suppose that neo-idealists would say that Mr. Joad had not taken sufficient account of a statement of Croce's which he himself quotes at the beginning of his paper, *viz.*, that the consciousness which forms the object of philosophical enquiry is the universal, not the individual, consciousness. Mr. Richardson combats some of Mr. Joad's criticisms though not on neo-idealistic lines, but his main point is that Mr. Joad has not shown that neo-idealism is obliged to deny the existence of other minds but only that it supplies no grounds for asserting it; and he goes on to contend that this difficulty is one in which all other philosophical theories are equally involved. Mr. Richardson remarks incidentally that "the pragmatist argument, that we habitually and successfully assume in practice the existence of other minds, evidently does not help to resolve the logical difficulty". This remark supplies Dr. Schiller, of course, with an admirable text for his own discourse, and whether we are pragmatists or not we may surely agree with him that an assumption which is required in practical life can hardly be dismissed as having no logical significance.

The question of the final Symposium is whether the New Idealism (Croce again) can dispense with Mysticism. Stated in a more definite form, the issue is whether the Italian thinkers lay too much stress on change and activity and do not sufficiently recognise that abiding and transcendent reality of which the mystics claim to have their intuitive apprehension. The representatives of the two doctrines show no great sympathy for each other's views, and the discussion becomes more purely hostile as it proceeds, so that eventually it does more to entertain than to instruct the reader. According to Mr. Collingwood, Miss Underhill has not understood Gentile; according to Dean Inge, Mr. Collingwood has not understood Mysticism; and when I add that Dean Inge himself speaks of modern Idealism as a mentalism which "asserts with Kant that there are none but thinking beings," it will be apparent that misunderstandings of one sort or another are somewhat widely diffused. Dean Inge disclaims any special knowledge of the Italian thinkers, and evidently he might have extended his disclaimer to the post-Kantian idealists, otherwise he would hardly have taken so much amiss Mr. Collingwood's reproduction of Hegel's criticism of intuition. Mr. Collingwood is willing to admit that "in the mystical experience substantial truth is actually attained" (p. 174), but holds that the mystics give a wrong account of the nature of the experience. It is not surprising, however, that Dean Inge is not pleased to be told that "the mystics of history have commonly described their experiences in terms of a philosophy

now out of date, a philosophy which no competent person now accepts" (pp. 172-173). But he may be said to get his own back when he tells us that his conclusion is "not that the new Idealism can or cannot dispense with Mysticism, but that Mysticism can very well dispense with it" (p. 184).

In the volume of *Proceedings* Prof. Whitehead's presidential address is on 'Uniformity and Contingency'. He starts with some quotations from Hume's *Inquiry* and seeks to show, first, that Hume's own account of causality presupposes at any rate a space-time continuum, and, second, that some further basis of uniformity in nature is required if our trust in induction is to be justified. The general line of argument is familiar enough, *viz.*, that all objective reference in knowledge implies a fixed order of relations, but the statement of it is sometimes made difficult by the author's peculiar terminology. In one of the later papers Sir W. Leslie Mackenzie sets forth the difficulties which he has found in Dr. Whitehead's use of the term 'event'.

I must be content to mention briefly some of the other writers and subjects. A paper by Dr. E. S. Russell on 'Psychobiology' is directly connected with the subject of the biological Symposium in the other volume. A paper introductory to a discussion of Prof. Wildon Carr's 'Theory of Monads' is contributed by Miss Hilda Oakeley. Dr. Broad has a timely examination of the different possible meanings of the term 'Unconscious.' Prof. L. J. Russell deals with the development of Leibniz's philosophical views, and suggests that the monadology was a result, not of any one line of thought such as the logical doctrine of subject and predicate, but of the convergence of several distinct lines. Among the other writers are Prof. Hoernlé, Mr. Cator, Miss May Sinclair, Mr. Joad, Mr. Delisle Burns and Mr. Ginsberg, several of whom continue or supplement the discussion of subjects which they have dealt with in previous papers to the Society or in other writings. Finally there is an interesting sketch by Prof. Wildon Carr of the late Dr. Bosanquet's connexion with the Society.

H. Barker.

Spinoza, Descartes and Maimonides. By Leon Roth. Oxford, at the Clarendon Press, 1924. Pp. 148.

The time has long passed, if it ever existed, when the philosophy of Spinoza could be regarded merely as a rationalised Cartesianism. Few will be disposed to deny the influence of the great mediæval Jews on, not only the theological opinions of Spinoza (where it is direct), but also on the philosophical teachings embodied in the *Ethics* and the other treatises. But Mr. Roth's purpose in this valuable little volume goes beyond these easy admissions: he seeks to set Spinoza forth as a conscious opponent of the central logical and metaphysical doctrines of Descartes, standing to the Cartesian School much in the same relation as Moses ben Maimon stood to the Kalam. "The main thesis of the present essay," he says,

"is that *in his defence of traditional belief the Arabic theologian was led to construct a metaphysical system which in logical essentials is precisely the same as that adopted long after by Descartes;* while that *in his attack on and rejection of this system Maimonides urged the same objections and put forward the same positive grounds of reconstruction as were used against Descartes by Spinoza*" (p. 68, author's italics). The argument, which is ably marshalled, is divided into four sections: the first deals with the logical bases and main results of Descartes's philosophy, and is, as a whole, a discriminating but not too sympathetic study. Considerable emphasis is placed upon the Cartesian criterion of truth in ideas, viz., their clarity and distinctness, which is interpreted as meaning that the true idea is the self-complete, discrete idea. This again is held to imply that there is no unitary active mind at all (p. 19) since the mind *is* the ideas, and these are atomic. Nor, on this basis, can there be any real thought transitions in the absence of some unifying agency, and it was to fulfil this need that God was introduced as the synthetic unity of the discrete elements, making science or a whole of knowledge possible. Hence the "supreme importance" of the proof of God's existence. Against this logical and physical atomism resulting in a pluralistic scepticism, the philosophy of Spinoza was fundamentally and consciously directed.

Mr. Roth seeks to bring out this result in the second section of the book in which the main lines of Spinoza's teaching are, a little disappointingly, sketched. Spinoza's unfinished logical treatise *De Intellectus Emendatione* is, we are told, "specifically directed against any logical theory which sets out . . . from the individual idea as discrete" (p. 53). There are no 'things' in nature, no discrete objects, and in mind which reflects nature there are no discrete ideas. "The very essence of an idea lies in its connexion with other ideas. There is, in fact, only one idea, i.e., the systematic unity of all ideas, as there is only one thing, the systematic unity of all things" (p. 54). In a word, the true idea is not the *discrete* but the *concrete* idea. I do not, of course, quarrel with the obvious truth contained in this exposition. Spinoza is certainly much clearer on these matters than his predecessor. Nor do I deny that Descartes often lends himself to an atomistic interpretation—so often, in fact, that he must be held to have leaned definitely to that side. But is it not a little hard on him to be faced three hundred years after his time with a 'Yea or Nay?' made possible by a subsequent development guided by the more penetrating vision of Spinoza? And although the theory of Spinoza is more self-conscious and satisfying than that of Descartes I cannot, at present, agree that it is simply opposed to it. Mr. Roth is, perhaps, a little obsessed by the apparent opposition of the 'discrete' and the 'concrete,' and has not been sufficiently disposed to take the *De Intellectus Emendatione* at its face value. "Ideas which are clear and distinct can never be false: for the ideas of things which are clearly and distinctly conceived are either themselves the simplest or are composed of, that is to say deduced from, the simplest ideas. That, in truth, a per-

fectly simple idea cannot be false everyone can see if only he realises what a truth is or what the intellect is, and also what is meant by a falsehood" (*De Intell. Emend.*, § 68). And the implication is that falsity rather than truth, arises from the compounding of ideas, and the truth of a compound idea is once more determined by its internal clearness and distinctness. We can no longer entertain the fiction of a square circle when we clearly understand what a square is and what a circle is. In so far as an idea is internally coherent, and therefore discrete, it is true (and only in so far). In a word, the concrete idea is true if it is discrete. The further conclusion that only one such idea is wholly or perfectly discrete does not invalidate the logical analysis, but depends upon it.

It is in view of a relation such as this between Spinoza and Descartes that Edward Caird made the assertion deprecated by Mr. Roth (p. 124) that "in the Spinozistic philosophy there are few differences from Descartes which cannot be traced to the necessary development of Cartesian principles": a saying which, as it stands, by no means rules out the influence of Maimonides, or makes Spinoza a mere Cartesian. In any case necessary developments issue sometimes in opposites! Mr. Roth might well consider whether in his reaction from the "conventional judgement" (p. 143) of the relations of Spinoza and Descartes he has not allowed his thesis to suggest a mere opposition where there is really dialectical development by a mind less versatile than that of Descartes but wholly given to philosophy. I cannot think, for example (p. 43), that Spinoza has Descartes specially in mind in the polemical Appendix to Part I. of the *Ethics:* even in that work, where references are exceptional, he does not hesitate to name Descartes (and, as I read him, with great respect) on occasion given.

The third section of the book brings us to Maimonides and presents us with an informative study of the "*Guide for the Perplexed*" and its historical context. Even here, however, Mr. Roth's interest is in Spinoza and overweights the exposition. The whole book is emphatically a book about Spinoza, and the reader is led at every page to questions of comparison and influence. The result is that imperceptibly we are led to expect a greater claim of direct debt than the author has it in his mind to make. He does not forget that "*Rabbi Moyses*" was influential beyond the Jewish schools, and that scholastic and other influences from the middle ages were not to be thrown off by a Descartes, or even by a Spinoza, by a mere act of will: indeed, his thesis is that some of them were not. Objecting, then, to the assertion by Principal Caird that the "occasional coincidences" of Spinoza and the mediæval Jewish philosophers "are such only to the ear," Mr. Roth himself comes to the not altogether dissimilar conclusion that "if we had to sum up our view of the relations between Spinoza and Maimonides in a few words, it would be difficult to find any more appropriate than *memini olim legisse*" (p. 104). I do not say that that is negligible: much less might be highly important, and

that, in fact, is the line taken by Mr. Roth. Maimonides provided "the primary and permanent background" for Spinoza, the notion of "the universe as a totality through which alone it is possible to know God" (p. 105); and not only that: the influence "extended far beyond general principles" (p. 106). It is to the substantiation of this last assertion that the fourth, and concluding, section of the work is devoted.

In the main the discussion centres about three points of agreement or analogy. The first carries very little weight: it consists in a common rejection of anthropomorphism in theology. The second is more important and centres in the doctrine of *imaginatio*. According to Mr. Roth this notion was not derived by Spinoza from Descartes who uses the term in a confused way and bases nothing important on it. In Maimonides, however, there is to be found a characteristic triple division of grades of knowledge. Corresponding to Spinoza's *imaginatio* there is "the perceptive knowledge of the ordinary man" and the theologian, standing in the way of adequate knowledge of the incorporeality, simplicity, infinity and eternity of God; corresponding to *ratio* there is the scientific knowledge of the scientist and Aristotelian philosopher; and corresponding to *scientia intuitiva* there is prophecy. And just as *scientia intuitiva* combines the excellences without the defects of both *ratio* and *imaginatio* so, according to Maimonides, prophecy is a higher fusion of perception and science. No doubt these features do suggest *prima facie* an important parallelism, but a much fuller discussion and more evidence than Mr. Roth adduces will be required to render less dubitable his conclusion that the Maimonidean 'prophecy' is "the source of the doctrine of *scientia intuitiva* in Spinoza" (p. 134). After all, triplicities and syntheses have been invented both before Maimonides and since Spinoza: it is the content of the moments that is important, not the architectonics.

The third point of agreement adduced is in the theory of intellectual immortality. On this I make no comment beyond pointing out that others have put forward similar theories from the time of Aristotle, and further that, though Mr. Roth adds some very interesting suggestions, the theory of Spinoza has not yet received its definitive exposition.

Mr. Roth's book as a whole is a brilliant and painstaking and mature piece of work, and I should be very sorry if any criticism of mine should suggest the contrary. It is difficult if not impossible justly to indicate the indirect origins and streams of influence in the fused content of philosophies far removed in time from our own. There are pitfalls from which we are not safe even when conscious of their existence. This is perhaps especially the case with a long pondered system such as that of Spinoza, and Mr. Roth has shown temerity in attempting a piece of work so well worth the doing. We shall look out for further studies of the same kind from the British secretary of the *Societas Spinozana*.

H. F. HALLETT.

VIII.—NEW BOOKS.

Causation and the Types of Necessity. By CURT JOHN DUCASSE. (University of Washington Publications in the Social Sciences, Vol. I. No. 2, pp. 69-200). Seattle: University of Washington Press, 1924. Pp. 132.

PROF. DUCASSE'S essay has the great merit of raising all the right questions with regard to causality. That his answers do not seem to me at all satisfactory is due to the fact that they are based upon a thesis which (though it may, perhaps, throw emphasis upon a wrongly neglected point) is one singularly difficult to maintain.

This thesis is that causality is concerned with direct relations between single events and only derivatively with causal laws. Hume, according to Prof. Ducasse, has led philosophers astray by concentrating attention upon causal laws and thus emphasising constant conjunction instead of necessity. But causality is essentially concerned with individual instances. "If the engine of my car stops, and I ask '*Why?*' I am not asking for a statement of invariable succession or of law, even though one such may, conceivably, be inferable from the answer that it was because the magneto wire became disconnected at that moment. What I want to know is whether the latter occurrence was the single *difference* between the circumstances of the engine at the moment when it was running, and at the moment when it was not. It is that individual stop, unique in the cosmic history, which interests me, and the cause of which I seek *and find*" (p. 19). In such a case as this we are concerned with one individual case of causality whose "necessity is objectively observable". At this point one hopes that Prof. Ducasse has discovered a new escape from Hume's devastating criticism and is going to maintain, as against Hume's atomism, that a necessary causal relation is one of which we can be directly aware. Alas, it turns out to be a verbal quibble. For what does Prof. Ducasse mean by his necessity?

"The change from not-X to X of object O was *sufficient to* the change from not-Y to Y of object Q (and the change from not-Y to Y of object Q was *necessitated by* the change not-X to X of object O) if:

1. The object Q in circumstances not-X,[1] a, b, c, d, . . . was in the state not-Y.

2. The single change not-X to X of the object O in these circumstances, occurred.

3. The change not-Y to Y of the object Q then occurred" (pp. 553-56). [And Prof. Ducasse gives similar definitions of "necessary to," "con-

[1] Why is not-X included among the constant properties of Q? Surely the starting of a locomotive held up by a signal is "necessitated by" the change from red (not-green) in the colour of the signal lamp just as much if the locomotive is painted green as if it were painted any other colour?

tingent upon" and the negatives; also of the relations as holding between states instead of changes of objects.]

That causal necessity means merely this is something that not even Mach has dared to assert. For a descriptionist "a proposition is necessary when it is a value of a propositional function that is true in all cases" (Russell), *i.e.*, the necessity of a causal proposition lies in its being an instance of a universal proposition which is true as a matter of fact. The necessity that Prof. Ducasse's car stops when the magneto wire breaks arises from the fact that all cars do stop under similar circumstances. This necessity is not all that a non-descriptionist means by the word and it is no use for justifying induction. But Prof. Ducasse's necessity is much less even than this; for it is to be applied to a proposition taken entirely by itself without reference to any other proposition. So, for certain kinds of propositions, "necessary" becomes a synonym for "true". It may be true that a certain change in O is the only change taking place in it just before a certain change in object Q: but it is surely unjustifiable to say that the latter change is necessitated by the former unless this relationship holds in all similar cases; *i.e.*, unless the particular relationship is an instance of a true generalisation. And this Prof. Ducasse will not have.

Even with Prof. Ducasse's definition we are by no means out of the wood. Is his necessity really "objectively observable"? How do we know that a certain observed change is the only change in an object? Prof. Ducasse of course recognises that we can't know this; so puts forward what he calls the postulate of the Non-Interference of Nature, that unobserved circumstances are causally irrelevant. He even embodies this in his definition of cause so that by definition the cause must lie in that part of the environment which we have chosen to observe. No wonder Prof. Ducasse quotes with approval Charles Peirce's description of a postulate as "a proposition which we hope is true, and absolutely nothing more"! (p. 73).

In spite of this refinement the treatment of causality can be of no use for induction, since it deals solely with individual cases. Prof. Ducasse does not realise this, because he believes the false proposition which Dr. Moore thinks is the essential part of the denial of external relations—namely that, if A has a relational property P, then from the proposition that a thing has not got P it follows that the thing is other than A. Consequently Prof. Ducasse thinks that "strictly the same thing" must necessarily have all the causal properties of the thing "merely in consequence of the law of Identity" (p. 63). Thus his individual cases (in theory at least) may be automatically generalised. But, to quote Mr. Joseph (for he is almost the only logician, according to Prof. Ducasse, to treat causality rightly), "the causal relation which connects *a* with *x* connects a cause of the *nature a* with an effect of the *nature x*". *I.e.*, causal relations hold between events in virtue of these having certain properties which are connected by general causal laws. This, surely, is the correct doctrine: neither Prof. Ducasse's neglect of the universal proposition involved nor the neglect of the particular proposition, which he attributes to most previous logicians, can give us a correct analysis of causality. The great difficulties involved in the causal relation itself are not overcome by treating them as merely verbal.

Prof. Ducasse's essay contains many interesting remarks which are independent of the thesis which it is his "central purpose" to maintain. The book opens with an intelligent criticism of previous causal theories from Hume to Mr. Russell, and concludes with a less intelligent section on meaning.

R. B. Braithwaite.

The Nature of Laughter. By J. C. Gregory. (International Library of Psychology, Philosophy and Scientific Method.) London, 1924. Pp. vi, 242.

Mr. Gregory is very well aware that Laughter cannot be treated adequately in a volume of these dimensions, and he is to be commended for preferring to cover a wide area of the subject descriptively, with a satisfactory minimum of analysis, rather than to limit his enquiries by the facile expedient of an assumed simplicity and finality which the facts will not bear out. For in the experience of laughter there is to be found in its most bewildering form that peculiar combination of complexity and fluidity which characterises all mental facts, and resists every attempt at simplification. Mr. Gregory thinks that it is probable (p. 19) that there is a fundamental element or ground-plan in the many kinds of laughter;—most of those who have taken the trouble to write on the subject have had the same conviction, and this volume shows very conclusively that they have one and all been led to undue simplification in the attempt to isolate the common feature. And in asking whether the author succeeds any better it will not be amiss to suggest that it may well be that the search for a common element in all laughter, for a common origin, a common type of situation in which it arises, for anything common in all the many forms of laughter: exuberant, comic, triumphant, contemptuous, playful, simpering, and so forth, is a search for the proverbial black cat. Undoubtedly there *is* something common to all laughter, namely that it is laughter, but to cite that, either covertly or openly, as explanation, is not unlike the attempt sometimes made to explain away the plurality of causes by discovering a common element in them all, which, however, upon inspection resolves itself into the effect *simpliciter*.

One of the most satisfying features of Mr. Gregory's book, evident throughout but especially in Chapter VII, is that he is duly impressed by the vast variety of laughters, and it is a testimony to his scientific enthusiasm that in face of this he is still undeterred in the search for a "fundamental element," "ground-plan," or "primary situation" common to them all. "This element needs no great analytical skill to expose it nor arduous reflexion to perceive it, for it is simply the familiar, and even obtrusive, element of *relief*" (p. 19). Mr. Gregory's cat therefore is by no means black, nor even procryptically coloured, but I shall be much surprised if it does not turn out to be a Cheshire cat.

It would have been no small advantage had more care been taken to make clear the exact nature of this relief, and how it is related to laughter. We are offered a great variety of expressions for the relation. Relief is "the fundamental emotional accompaniment of laughter" (pp. 23, 100); laughter is "determined by relief" (p. 28); relief is "immanent in the act of laughing" (p. 28), is the "constitutive element in the physical act" (p. 29); laughter is "an expression of relief" (pp. 29, 62); relief is "written on the mechanics of laughter" (p. 52); it is significant "for the genesis and nature of laughter" (p. 80); situations of relief "invite or stimulate it" (p. 81); "a sheer sense of relief" is "the germinal feeling of laughter" (p. 64); we may laugh "from sheer relief" (p. 62); a situation of relief "represents the fundamental plan on which all laughter is built" (pp. 29, 83, 113, 117). From this small selection of expressions it appears that the relation between relief and laughter is multiform, intimate, and all-embracing. Not only is relief the *cause* of laughter, but it is its *fundamental ground-plan;* not only does the physical act *represent* relief, but relief *constitutes* that act. Relief is at once the essential feature of the laughable *situation*, and also the *emotional constituent* of the laughter; laughter is itself a relief, and it relieves the body of its secretions (p. 29).

It would not be difficult to deny each of these assertions in turn, but Mr. Gregory very wisely offers them alternatively rather than collectively, so that wholesale denial becomes much more hazardous. It would be interesting to know whether Mr. Gregory regards the grin, the smirk, and the snigger as forms of laughter.

I prefer, however, to raise the more fundamental question already referred to as to the nature of relief. In particular, is relief really the element that Mr. Gregory means to detect in all laughter? It seems to me that not only are hypocritical, unrelieved, and restrained laughters no relief, but in its very essence laughter is as completely different from relief as anything could well be. The ideal experience and expression of relief I take to be the *diminuendo of the yawn* which is as far from laughter as boredom is from vivid interest. I am ready categorically to deny that relief is the emotional constituent of laughter either in the weaker, or in the intenser forms of the experience; laughter is vivid, exciting, accumulative; it is as Hobbes so perfectly describes it "a sudden glory". I cannot but think that Mr. Gregory overlooks this positive constitutive feature of laughter: the excitement which a dog expresses with his tail, and noncaudate man, more discriminatingly, with his face. But further, why should it be assumed at all that laughter must be explicable in terms of a common element, any more than are such actions as running, dressing, or singing? Is there a common element, or situation, or emotion, or result in every case of running, except the running itself; or in the putting on of clothes, ornaments, or ceremonial garb, but the adornment; or in human song, save the singing? With actions and experiences such as these explanation must rather take the form of the discovery of a whole within which they find their place, than of the discovery of elements finding a place within them. In a word, explanation must be philosophical and not scientific.

I have occupied too much space in these more fundamental enquiries and must speak briefly and warmly of the acute descriptive portions of the volume. In its arrangement, wealth of illustration, and tolerant spirit, it is beyond all praise. Mr. Gregory is eloquent upon the humanisation of laughter in the course of history; he gives discriminating surveys of rival theories of laughter, of its relation to pleasure, to tickling, to wit, to instinct; of its place in society and civilisation. Wisely he refuses to define the ludicrous, though not to discuss its relation to and importance for laughter; and, not to be behind the times, a chapter is given to "Laughter and Repression". One complaint only I have to make, namely that the references to quotations (and there are 327 in 228 pages) are collected at the end of the volume instead of being given as footnotes. This is a most irritating innovation which appears to be spreading. Nothing could be worse, save, perhaps, to put them at the ends of chapters. There may be an objection to lengthy footnotes, but it does not apply to brief references of this kind.

Mr. Gregory has a lively style without asperity; reading has made him "a full man"; the study of laughter has not dulled his sense of humour; and his readers will be grateful to him for having written a book which may justly be characterised as "Laughter without tears".

H. F. HALLETT.

The Philosophy of Hegel: a systematic exposition. By W. T. STACE, B.A. London: Macmillan & Co., 1924. Pp. xi, 526.

This is a very good book. At last we have in English a connected account of the whole Hegelian system, sufficiently complete to supply

the reader with a clear vision of all the leading conceptions, sufficiently critical to show where the main difficulties lie, and sufficiently careful and sympathetic to give a reasonable assurance that what is presented to us is, on the whole, the actual thought of Hegel and not an attempt to transform it into something different. Such a book does not call for much criticism. In general, to criticise it would be to criticise Hegel himself. The only serious exception to this is to be found in the part dealing with the philosophy of nature; and it will probably be best to confine our attention almost exclusively to that portion of the work.

That there are some serious defects in Hegel's philosophy of nature is generally admitted; but the real grounds for dissatisfaction with it have perhaps never been set forth so definitely and discriminatingly as they have been by Mr. Stace. He distinguishes two chief defects. First, there are grave errors in detail. 'It is almost universally admitted,' he says (p. 315), 'even by the most ardent Hegelians, that this branch of the system, depending as it does upon physical science for its data, is now out of date owing to the strides which physical science has made since Hegel's day. Nor will anyone now dispute that, even in his own time, this philosophy was, as regards the details of its deductions, mostly a failure.' This can hardly be denied. What might be urged in mitigation is that it is perhaps easier to reconcile some of Hegel's statements with the science of our own time than with that of his. He is not as far removed from Einstein as from Newton; and it may be doubted whether he would have had as little sympathy with the biology of Mr. Lloyd Morgan as he had with the cruder ideas of evolution that were current in his generation. His view of human history, at least, is essentially that of an evolutionist. On the whole, however, it seems fair to say that the details of his philosophy of nature are worthless. On the other hand, Mr. Stace urges strongly (pp. 297 *sqq.*) that the attempt to give an orderly account of the universals embodied in natural objects was just as legitimate, and just as essential a part of the Hegelian system, as the similar attempt to give an account of the fundamental conceptions that are contained in human institutions. All that he says on this subject is admirable. But here also he thinks that there is a very serious error in Hegel's doctrine; and what he states about this is perhaps the most definite contribution that he has made to the criticism of the Hegelian system.

Referring to Krug's famous question, whether Hegel could give a deduction of the pen with which he was writing and Hegel's scornful repudiation of such a suggestion, Mr. Stace urges (pp. 308-309) that, though such a deduction would no doubt be practically impossible, Hegel ought at least to have recognised that it was not theoretically absurd. Unless it is theoretically possible, he contends, it cannot be claimed that the universe is completely rational; and he goes on to inquire why it was that Hegel appeared not to recognise this, and why he seemed to admit that there is an element of 'contingency' in nature that could not be logically deduced. His answer is (p. 307) that 'the error, if it existed at all, is, in my opinion, due to the fact that Hegel had never completely rid himself of the phantom of the thing-in-itself; and this notwithstanding his repeated attacks upon the thing-in-itself'. I find it difficult to accept this explanation; nor does it appear to me to be called for. Surely the particular cannot be logically deduced. It can, indeed, be shown that particularity (and consequently 'contingency') has a place in a rational system; and this Hegel does seek to show. But have we a right to ask of any philosophy to explain why there is such an animal as the kangaroo, or why our earth has the particular place that it occupies in the stellar system? Of course, it may be urged that such acknowledgment of the impotence of philosophy contradicts the view that the universe is com-

pletely rational. The reply, from Hegel's point of view, would seem to be that it is in accordance with the rationality of the universe that it should contain particulars that cannot be rationally deduced. It may be answered, no doubt, that in that case pure reason does not contain the complete explanation of the universe. This must be admitted (except, at least, with the proviso that reason demands its opposite); and I believe it is chiefly on this ground that later idealists, such as Mr. Bradley, prefer to say that reality is essentially *spiritual*, rather than that it is *rational*. But Mr. Stace will have none of this (pp. 77-78). He thinks that Mr. Bradley also is in search of the thing-in-itself, and sweeps him somewhat scornfully aside. He has no tolerance for any of the critics of Hegel except Herr Krug. He seeks to be more Hegelian than Hegel. But surely it is wrong to suppose that either Hegel himself or his later followers have been seeking for the thing-in-itself. What they have been looking for is the *concrete individual*.

Perhaps I may be allowed to add that, when Hegel's system is so clearly and fully set forth as it is by Mr. Stace, it becomes pretty apparent that its chief defect lies in the fact that its earlier parts are not sufficiently modified in the light of the later. It is of the essence of the Hegelian point of view that its full significance does not become apparent till the end is reached; and the end is found in the conception of 'spirit that knows itself as spirit'. Yet the earlier parts of the system are allowed to stand without being adequately interpreted in the light of that conception. Perhaps the most conspicuous case of this defect is found in the philosophy of the State. In the philosophy of Religion, which comes later, it is explained that Christianity is to be taken as the highest type of religion. Now, surely Christianity has some bearing upon the life of the State; and it does not seem, on the face of it, that this is adequately recognised in the treatment of the State itself. Similarly, it would seem that the recognition that reality is spiritual must be taken as correcting the view that it is capable of a purely *rational* deduction. When this is recognised, we are better able to appreciate what Hegel says about 'contingency'; though at the same time such a recognition involves the acknowledgment that he did not sufficiently explain how that element is to be conceived. The latest suggestion is that it might be conceived as the work of creative imagination as the particularising function. But with that we are not here concerned.

I must conclude with very hearty congratulations to Mr. Stace on his invaluable contribution to the study of the Hegelian system. So far as I can judge, it is much the best book for any one to read who wishes to have a comprehensive survey of Hegel's philosophy and to see both its strength and its weakness—especially its strength.

J. S. Mackenzie.

Hearing. By Robert Morris Ogden. New York: Harcourt, Brace & Co.; London: J. Cape, 1924. Pp. xiii, 351.

Prof. Ogden has for many years been associated with the study of hearing by the yearly summaries of literature made by him for the Psychological Bulletin as well as by various articles on the attributes of sound and on consonance. In this volume he has taken a survey of the present problems, facts, and theories of hearing that covers an extraordinarily wide range of matter and is both lucid and interesting. The scope of the book is evident in the names of the chapters—physical sound, the organ of hearing, tone, vocable, noise, tonal fusion, the character of sounds, the musical scale, language, music, the localisation of sound, the pathology of

hearing, and aural education. There is a bibliography of 150 titles and an index. The book will serve as a useful introduction to the study of hearing for students of psychology and for those who are more or less indirectly interested in the psychological study of hearing.

But it is more than a mere introduction. Prof. Ogden always assumes a critical and evaluative attitude towards the theories he describes. And the book is thoroughly characterised by the theory of tone he adopts. In its fundamental form this is moulded upon Watt's theory of tone and results in diagrams of tones that bear considerable resemblance to his. They differ in having a circular base and in including (surely unnecessarily) a consideration of the differences in energies required to produce just audible tones of different pitch, as determined by Wien. On page 72 very low tones are inferred to be too large and very high ones to be too small. But "if low tones appear higher in pitch than they should do with reference to their vibrational frequencies," and high tones appear flat, the inference regarding the volumes of these extreme tones must surely be the contrary, as Watt showed.

From Rich's experiments, which showed that differential judgments of tonal volume obey Weber's law, Ogden infers that in the middle range of pitch each octave should contain approximately the same number of discriminable steps or intervals, some twenty-four to thirty in number. This inference seems to him to make Watt's hypothesis of the halving of volume in the octave "manifestly unacceptable"—which is, of course, as much a mistake for twenty-five intervals as it would be for twelve or eight or for only one. In fact, although Prof. Ogden seems to adopt Fechner's assumption in thinking the differences of volume in any given interval equal ("equal decrease of volume as dependent upon equal vibrational ratios has been assumed for octaves and other musical intervals," p. 73, *cf.* v. "volume-difference" of the index), he seems more emphatically to assert that "interval requires not only a minimal distance, but also a certain volumic proportion of the tones involved" (p. 122, *cf.* pp. 156 f., 235, 318). If this phrase, "volumic proportion" really means what it says, the halving of volume in the octave, or some such proportion, as suggested by Watt, *Psychology of Sound*, p. 174 f., would seem to be quite a tenable idea.

Having, however, rejected the relations of balance between tones that such proportions alone make possible as a basis for a theory of tonal fusion, Prof. Ogden has to seek an explanation of fusion outside such intrinsic relations of the fusing tones. His solution is the "harmonic theory of fusion". "The general idea of the harmonic theory is that certain integrations of pitch are affected by ingrained dispositional tendencies, both innate and acquired; and the question which confronts us is why certain intervals should lend themselves to these dispositional trends while others do not. The answer is given in the harmonic series of the partial tones" (p. 140 f.). Prof. Ogden has thus adopted an extremely difficult line of theory. The relative frequency of intervals in the series of partials, even if it has any psychological significance, and the increasing patience of the ear with dissonances are weak supports for the insubstantiality of "adjustments of the ear to frequent combinations of tone," "selected through inheritance" (p. 142). We want to know what these adjustments actually are. And if they really exist, the references to frequency in the series of partials and to individual habituation become irrelevant. That brings us back to the state in which Stumpf left the problem of fusion. A theory of fusion must indicate relations now inherent in the (pure) tones fusing that will form an acceptable parallel to the chief grades of fusion. This Prof. Ogden to some extent recognises (p. 146), but he does not believe that "fusion rests entirely upon immanent features," but instead "regards the integration of the harmonics as biologically conditioned, and hence

selected as a neutral configuration of sound, with reference to which variations of timbre—tonal, vocal, and noisy—may more readily be apprehended and discriminated. Common factors thus come to be grouped and set off as a single fusion over against the non-fusing components of a complex sound. The integration of two tones into a fused unit is but a step beyond the primary integration of the pure tone, the vocal formant, and the simple noise. Upon analysis it reveals two pitches, instead of only one" (p. 146). Then why does he not offer us a shape-diagram for the fused unit of two tones as he does for tone, vowel and noise? And why the biological condition?

In the chapter on the "Character of Sounds" or their tonality, four laws are asserted: (1) the law of the tonic (Meyer's theory of 'powers of 2'), (2) the law of cadence or falling inflexion, giving finality to the lower tone, (3) the law of return to the starting-point, and (4) Javanese and other equal intervals. This analysis seems to make tonality more fundamental a feature of tone than the facts warrant and to set it into too great opposition to equality of intervals.

The discussion of the nature of music takes notice of the study of primitive melody and of various forms of scales, ending up with some account of harmony. Here use is made of Watt's notion of paraphony, which Pratt's results seem to confirm.

In referring to Seashore's tests of musical ability the suggestion is made that more attention might be given to the discrimination of interval and volume, the interference of which, Prof. Ogden thinks, may account in part for the skew form of the distribution of sensitivity to pitch differences displayed in Seashore's familiar graph.

The chapter on the localisation of sounds also deserves mention as a clear and cautious exposition.

H. J. W.

The Growth of Civilisation. By W. J. Perry, M.A. London: Methuen, 1924. Pp. 224.

Medicine, Magic, and Religion. By W. H. R. Rivers, M.D., F.R.S. London: Kegan, Paul, Trench, Trubner and Co., 1924. Pp. 147.

The Decay and Restoration of Civilisation. By A. Schweitzer, M.D., D.D. London: Black, 1923. Pp. 105.

Civilisation and Ethics. By A. Schweitzer. London: Black, 1923. Pp. 298.

For the proper understanding of civilisation it seems necessary not merely to form some concept of its ideal, but also to obtain some knowledge as to the manner in which it has developed. It is to the statement and establishment of broad general principles concerning the latter that Mr. Perry's work, particularly the present volume, is mainly devoted. The position he maintains was also eventually accepted by the late Dr. Rivers, whose book of the title mentioned is a valuable contribution in support of the theory, from a particular group of studies. Briefly, it may be said that their view is, that when the similarities and the differences of different civilisations are taken into account, it seems no longer possible to regard them as independent products, indigenous to the different localities, and due to the common human nature of the different peoples. The interpretation of the relations of civilisations is to be looked for in historical connexions rather than in psychological considerations. Though particular peoples

in diverse conditions have initiated and developed particular elements of civilisation, the original impetus is from the same source. The common root, the place of origin of civilisation, Mr. Perry traces to Egypt. It arose and spread probably in the first place in relation with the transition from food gathering to food production, and thus is closely connected with the beginning of artificial irrigation and agriculture. There are many difficulties concerning the early transmission of the rudiments of civilisation which Mr. Perry neither discusses nor mentions. The definite establishment of the theory must wait upon the careful consideration of data of very diverse types. Nevertheless, it may be suggested that the view propounded should have a bearing on the development of a philosophy of history. With the indication of a common source of the main impetus of civilisation, it should reveal also something of a common principle within diverse civilisations, and thus counteract the tendency to treat them as though inco-ordinable, and impossible to bring together in any consistent philosophy of history.

Dr. Rivers, taking the relations of medicine, magic, and religion as data, argues also for the common as opposed to the independent origin of civilisation. Both he and Mr. Perry insist that we are not concerned here with a sort of "evolution" in a direct line, but with a history of inventions, transmission, degeneration, and so on. In his present work, Mr. Perry attempts an explanation of the cause of the decay of civilisations. This is mainly warfare. One would have thought that it needed no argument that, as "organised," war is a "social" product. He maintains that early men were comparatively peaceful. But here, surely, we have to recognise a psychological and biological background. The idea, which we owe to economics and biology, of a "struggle for existence" seems to have *some* valid application in the realm of human history. Mr. Perry does not give sufficient attention to the view that war has in part developed from what one can only call an instinctive violence aroused in the effort for self-preservation, and possibly also in rivalries associated with sex-satisfaction. He associates the warfare which has led to so much decay in civilisation, in large measure with the class system and dynastic continuity. But one may seriously ask whether the prevalence of the class system in the past, with its effects on the division of labour, on organisation generally, and on the promotion of the arts, has not been more beneficial than otherwise. I venture to think that the relation of warfare to civilisation is more convincingly formulated, at any rate for much of the past, in Professor Flinders Petrie's *Revolutions of Civilisation*, published many years ago.

Dr. Rivers describes the early association of medicine and religion, and he views with satisfaction their new *rapprochement*, not merely for themselves, but also as a sign of a return from excessive specialisation, "to those close interrelations between the different aspects of human culture which are characteristic of its earlier stages". There is a need for a comprehensive and co-ordinated conception of civilisation. It is just in the lack of this that Dr. Schweitzer, himself a musician, theologian, and medical doctor, finds the cause of the tendencies to decay which he notes in the civilisation of our time. Warfare is not the main cause: it is one of the effects of that cause, the lack of a generally accepted and generally acceptable comprehensive and co-ordinated *Welt- und Lebensanschauung*. Dr. Schweitzer in his first volume describes the symptoms of decay which suggest this cause. In his second volume, he maintains that science, as the knowledge of the objective world, and the philosophy associated with it, fail to give us an optimistic world-view. Civilisation is not to be understood by attention mainly to the objective world: we have to seek its principles in a "will to live," the affirmation of, the "reverence

for," life. His attitude towards the objective world is largely sceptical. "The will to live which aspires to knowledge of the objective world is sure to make ship-wreck; the will to live which aspires to knowledge of itself is a bold and skilful sailor. My knowledge of the world is a knowledge from the outside, and must always remain incomplete. The knowledge derived from my will to live is, on the contrary, direct, and goes back to the secret springs of life as it exists in itself." Much might be urged against Dr. Schweitzer's survey of the ethical systems of the West; and more against his one-sided and "pessimist" description of the ethics of the East. Attention must, however, be limited here to his main formula: "Reverence for life". In so far as his exposition insists that civilisation is something living, in which the activities and dispositions of the agents are more fundamental than external effects, it emphasises a sometimes forgotten but nevertheless well known truth. The mere examination of the objective world cannot give us any adequate idea of the civilisation which will satisfy the subject. Nevertheless, one cannot but feel that almost the whole force of Dr. Schweitzer's book is due to an exaggeration of this side of the truth. It is patent to all, and, for the beginnings of civilisation, the works of Mr. Perry and Dr. Rivers would show, that in the process of civilisation the objective world modifies the life and mind of man. The control of Nature for human ends involves "obedience" to it. Here "knowledge is power" and reason must try to obtain a true account of the objective world, whatever its effect on the conception implied by the term, "Reverence for life". It must be confessed that this formula does not appear to have much value: the term "life" is so ambiguous. In its widest sense it includes those activities which we condemn from the ethical point of view, as well as those we approve. It does not give any effective principle of distinction between the right and the wrong. But one may ask: Have not all other general formulas concerning the ethical ideal and civilisation also failed? Must we not confess that so far we know of no one expression adequate to represent the principles and complexity of human civilisation, the richness of human values?

A. G. WIDGERY.

Speculations: Essays on Humanism and the Philosophy of Art. By T. E. HULME. Edited by HERBERT READ. With a frontispiece and foreword by JACOB EPSTEIN. The International Library of Psychology. London: Kegan Paul, Trench, Trubner & Co. Ltd., 1924. Pp. xvi + 271.

"Who will write the history of the philosophic amateurs and readers?" asked the author. Anyone who wished to do so for the ten years before the War would find this volume of great service. But T. E. Hulme, killed in action near Nieuport, 1917, was no ordinary amateur. He had an acute and rather audacious mind, and, what is rarer, that ability to persist in thought which usually leads to interesting work. We have had many collections of the poetry of those who were killed before they came to their full powers. This assemblage of Essays, Lectures, Papers read to various societies, Notes, and Jottings is the only example which has been published of the analogous thing in philosophy. An important part of Hulme's work, his book on sculpture, was destroyed at the time of his death.

People both able and interested in philosophy seem to be rarer than poets; certainly the material for the study of the earlier stages of philosophical development in good minds is scanty. The tasks of pupils are

too much influenced by the teachers to whom they are presented to be very valuable evidence, and there are strong reasons why the early jottings of philosophers who later publish their maturely considered works find their way to the wastepaper basket. Records, such as those here collected, of the processes by which views actually come in the first instance to be adopted and to be formed, have a special interest, apart from that of the views, which in some instances here is considerable.

There is nothing tentative or hesitating, however, though there is much which is incomplete and confused, in the opinions set forth. Hulme had to an exceptional degree the gift of dramatic presentation. He makes his arguments exciting without using illegitimate appeals. About half the book consists of an interpretation of Bergson; the rest is divided between essays or sketches for essays upon recent art, and an attack upon what Hulme called the Humanist ideology, the view, roughly, that the human mind is the measure of all things. Hulme's attempts to reconcile and combine the Realism, or Absolutism, which he found in *Principia Ethica* with the elements which attracted him in Bergson are representative of many people's struggles with these two chief influences of the years immediately preceding the War. This in itself would make them well worth preserving. There are also scattered throughout the book many highly original if cryptic utterances upon important matters, remarks of a kind which fully justify the title, for the author was one of those who can suggest new problems of interest as well as discuss the old.

I. A. R.

Kant und Husserl. By Dr. Walter Ehrlich. Halle, Max Niemeyer, 1923. Pp. 165.

This very able book falls into three parts, an examination of Kant's general transcendental method, an examination of Husserl's idea of a phenomenology and a third chapter comparing the two. A strong vein of criticism runs all through, indeed it seems a great pity that the author treats both Kant and Husserl from such an unsympathetic standpoint and in making the book altogether critical shows so little appreciation of the good points of either author. The chapter on Kant is a very good example of the "subjectivist" line of interpretation; his whole system is treated as depending on a confusion between "form" as a characteristic of objective reality and the mental act of forming (*i.e.*, when he has discovered that reality is divisible into form and content Kant assumes without question that form must have been contributed by the mind). Kant, according to the author, only proves the categories by splitting up the given into an unrelated manifold and then introducing the mind to put it together again with the help of the categories. The chapter is from its own point of view very well done, but it is surely rather late in the day to pass over the more realistic side of Kant without a word and to make the whole Critique an inquiry about the *origin* of our knowledge, depending entirely on the belief that mind must contribute the relations we find in phenomena. Consequently the author's criticisms, though very acute, do not seem to me at all decisive.

With the transcendental method the author compares the "eidetische" method employed in Husserl's phenomenology. This method differs from the Kantian in being only an analysis of the universal characteristics of the given and in not directly dealing with the transcendental question of the possibility of knowledge; it differs from ordinary empirical sciences in being a study of universals and primarily the universals of pure consciousness, of the self. The subject here is more novel but less clear to

an English reader, and I do not think the last two of the three chapters of the book can be read profitably without some previous acquaintance with Husserl. Perhaps the most important and all-pervasive of the criticisms the author brings against Husserl is that the idea of his phenomenology involves an illegitimate separation of essence from particular and a consequent hypostatisation of the former, a general charge which is well worked out in detail. Further, he thinks that Husserl and Kant both agree in the error of assuming that the nature of the given is to be learnt from the acts of knowing it.

A. C. Ewing.

Received also :—

M. P. Follett, *Creative Experience*, London, Longmans, Green & Co., 1924, pp. xix, 303, 12s. 6d.

C. F. M. Joad, *Introduction to Modern Philosophy*, London, Oxford University Press, 1924, pp. 112, 2s. 6d.

M. De Wulf, *Histoire de la Philosophie Médiévale, Tome I. : Des Origines jusqu'à Thomas d'Aquin*, 5th French edition, revised, Louvain, Institut Supérieur de Philosophie, 1924, pp. viii, 395, 20 fr.

Henderson Trust Lectures, No. I. : *The Old and the New Phrenology*, by Prof. G. Elliot Smith, pp. 15 ; No. II. : *The Story of the Brain*, by Sir J. Crichton-Browne, pp. 28 ; No. III. : *Phrenological Studies of the Skull and Brain Cast of Sir Thomas Browne of Norwich*, by Sir A. Keith, pp. 30, Edinburgh, Oliver & Boyd, 1924, 6d. each.

H. Wildon Carr, *The Scientific Approach to Philosophy : Selected Essays and Reviews*, London, Macmillan & Co. Ltd., 1924, pp. viii, 278, 12s.

X. Léon, *Fichte et son Temps*, Tome II., First Part, Paris, A. Colin, 1924, pp. vi, 533, 40 fr.

Aristotelian Society, Proceedings of the, N.S., vol. xxiv, 1923-24, London, Williams & Norgate, 1924, pp. 272, 25s.

Aristotelian Society, Supplementary vol. iv, *Concepts of Continuity*, London, Williams & Norgate, 1924, pp. vi, 240, 15s.

Annales de l'Institut Supérieur de Philosophie, Tome V., 1924, Louvain, Institut Supérieur de Philosophie, pp. viii, 738, 50 fr.

J. Lequier, *La Recherche d'une Première Vérité*, Paris, A. Colin, 1924, pp. 424, 25 fr.

W. Stern, *Wert-Philosophie* (*Person und Sache*, Bd. III.), Leipzig, J. A. Barth, 1924, pp. xx, 474, 15 M.

P. Busco, *Les Cosmogonies Modernes et la Théorie de la Connaissance*, Paris, F. Alcan, 1924, pp. 435, 25 fr.

R. P. Hawes, *The Logic of Contemporary English Realism* (Cornell Studies in Philosophy, No. 15), New York, Longmans, Green & Co., 1923, pp. 147.

F. Eberty, *Die Gestirne und die Weltgeschichte*, Berlin, G. Rogoff, 1923, pp. xiii, 48.

K. Dunkmann, *Die Kritik der Sozialen Vernunft*, Berlin, Trowitsch u. Sohn, 1924, pp. 240, Mk. 4·50.

O. Jespersen, *The Philosophy of Grammar*, London, G. Allen & Unwin Ltd., 1924, pp. 359, 12s. 6d.

W. D. Lighthall, *The Cosmic Aspect of the Outer Consciousness*, Montreal, Privately Printed, 1924, pp. 16.

Sri Aurobindo Ghose, *Ideal and Progress*, Calcutta, Arya Publishing House, pp. 68.

Sri Aurobindo Ghose, *Evolution*, Calcutta, Arya Publishing House, pp. 52, 8 annas.

Sri Aurobindo Ghose, *Thoughts and Glimpses*, Calcutta, Arya Publishing House, pp. 20, 6 annas.

Sri Aurobindo Ghose, *The Superman*, Calcutta, Arya Publishing House, pp. 28, 6 annas.

Sri Aurobindo Ghose, *Yogic Sadhan*, 3rd edition, Calcutta, Arya Publishing House, 1923, pp. 71.

N. K. Gupto, *The Coming Race*, Calcutta, Arya Publishing House, pp. 94, Re. 1/4.

Reichl's *Philosophischer Almanach*, 1924, pp. 480, M. 12.

A. Fraenkel, *Einleitung in die Mengenlehre*, 2nd ed., Berlin, J. Springer, pp. viii, 251, 82·60.

M. Born, *Einstein's Theory of Relativity*, trans. by H. L. Brose, London, Methuen & Co. Ltd., 1924, pp. xi, 293, 12s.

E. Bloch, *The Kinetic Theory of Gases*, trans. by P. A. Smith, London, Methuen & Co. Ltd., 1924, pp. xiv, 178, 7s.

M. E. J. Taylor, *Greek Philosophy*, London, H. Milford, 1924, pp. 143, 2s. 6d.

S. Ranulf, *Der Eleatische Satz vom Widerspruch*, Copenhagen, Gyldendal, 1924, pp. 222.

J. Burnet, *Plato's Euthyphro, Apology and Crito*, edited with notes, Oxford, Clarendon Press, 1924, pp. vii, 220, 8s. 6d.

D. S. Mackay, *Mind in the Parmenides*, pp. 114.

P. E. More, *The Christ of the New Testament*, Princeton University Press, 1924, pp. ix, 294, 13s. 6d.

E. R. Dodds, *Select Passages illustrative of Neo-platonism*, London, S.P.C.K., 1924, pp. iv, 91, 4s. 6d.

E. Gilson, *The Philosophy of St. Thomas Aquinas*, trans. by E. Bullough, Cambridge, W. Heffer & Sons Ltd., 1924, pp. xv, 287, 7s. 6d.

R. Carton, *L'Expérience Physique chez Roger Bacon*, Paris, J. Vrin, 1924, pp. 189, 12 fr.

R. Carton, *L'Expérience Mystique de l'Illumination Intérieure chez Roger Bacon*, Paris, J. Vrin, 1924, pp. 376, 20 fr.

R. Carton, *La Synthèse Doctrinale de Roger Bacon*, Paris, J. Vrin, 1924, pp. 150, 10 fr.

A. C. Ewing, *Kant's Treatment of Causality*, London, Kegan Paul, Trench, Trubner & Co. Ltd., 1924, pp. vi, 243, 10s. 6d.

S. Ward, *Ethics: An historical Introduction*, London, H. Milford, 1924, pp. 96, 2s. 6d.

Condillac, *Essai sur l'Origine des Connaissances Humaines*, Paris, A. Colin, 1924, pp. x, 225, 7·50 fr.

W. James, *Études et Réflexions d'un Psychiste*, trans. by E. Durandeaud, Paris, Payot, 1924, pp. 336, 15 fr.

W. B. Pillsbury, *The Fundamentals of Psychology*, Revised Edition, New York, The Macmillan Co., 1923, pp. xiv, 589.

J. von Kries, *Allgemeine Sinnesphysiologie*, Leipzig, F. C. W. Vogel, 1923, pp. x, 299, M. 10.

D. Bertrand-Barraud, *Les Valeurs Affectives et l'Exercice Discursif de la Pensée*, Paris, J. Vrin, 1924, pp. xvi, 306, 22 fr.

L. L. Thurstone, *The Nature of Intelligence*, London, Kegan Paul, Trench, Trubner & Co. Ltd., 1924, pp. xvi, 167, 10s. 6d.

A. Hesnard, *La Relativité de la Conscience de Soi*, Paris, F. Alcan, 1924, pp. xvi, 144, 8 fr.

F. Wittels, *Sigmund Freud, His Personality, his Teaching, and his School*, trans. by E. and C. Paul, London, G. Allen & Unwin, Ltd, 1924, pp. 287, 10s. 6d.

C. Baudouin and A. Lestchinsky, *The Inner Discipline*, trans. by E. and C. Paul, London, G. Allen & Unwin, Ltd., 1924, pp. 229, 7s. 6d.

É. Coué and J. L. Orton, *Conscious Auto-suggestion*, London, T. Fisher Unwin, Ltd., 1924, pp. 207, 6s.

Dunraven, Earl of. *Experiences in Spiritualism with D. Home*, London, S.P.R., 1924, pp. 285, 7s. 6d.

J. F. Tocher, *Anthropometric Observations on Samples of the Civil Population of Aberdeenshire, Banffshire and Kincardineshire*, and other Reports (W. R. Henderson Trust Reports, Nos. II. and III.), Edinburgh, Oliver & Boyd, 1924, pp. 172.

J. Brownlee, *The Origin and Distribution of Racial Types in Scotland* (W. R. Henderson Trust), Edinburgh, Oliver & Boyd, 1924, pp. 29.

C. H. Griffiths, *Fundamentals of Vocational Psychology*, New York, The Macmillan Co., 1924, pp. xiii, 372, 12s.

Report of the Consultative Committee on Psychological Tests of Educable Capacity, London, H.M. Stationary Office, 1924. pp. 248, 2s.

Sri Aurobindo Ghose, *A System of National Education*, Calcutta, Arya Publishing House, 1924, pp. 15.

Sri Aurobindo Ghose. *Songs to Myrtilla*, Calcutta, Arya Publishing House, 1923, pp. 57, Re. 1/4.

Ullaskar Dutt, *Twelve Years of Prison Life*, Calcutta, Arya Publishing House, 1924, pp. 292, R. 2.

P. Kammerer, *Rejuvenation*, London, Methuen & Co. Ltd., 1924, pp. 252, 8s. 6d.

IX.—PHILOSOPHICAL PERIODICALS.

REVUE DE MÉTAPHYSIQUE ET DE MORALE. 31e Anneé, No. 1, Janvier-Mars, 1924. **H. Delacroix.** *Le fonctionnement psychologique du langage.* [Extracts from a book on *La Langue et la Pensée*, due to appear in May, 1924. Language consists of articulatory and auditory mechanisms, or automatisms, which thought presupposes but which it also transcends. Following Head's work, the author distinguishes verbal, nominal, syntactic, and semantic aphasia. There is an interesting discussion on the influence of feeling on language, and another on the function of words and images in thinking. Sometimes we talk without thinking, sometimes we think more than we can put into words. In general, thought builds up language in building up itself.] **E. Meyerson.** *Le relativisme, théorie du réel.* [A chapter from a forthcoming book on *La Déduction relativiste.* The author's main contention is that Einstein's theory of relativity implies a realistic ontology, *i.e.*, a reality independent of consciousness, a thing-in-itself; and that it is thus in harmony with the traditional realism of all physical science. He, therefore, attacks various writers, French and German, who have construed Einstein's relativity as a relativity of the real to the consciousness of various observers, and thus tried to fit the theory into a positivist, or phenomenalist, interpretation of science, after the manner of Comte or Mach.] **D. Parodi.** *L'idée de responsabilité morale.* [Two lectures, taking their cue from Fauconnet's *La responsabilité : étude de Sociologie.* Fauconnet, a disciple of Durkheim, and his successor at the Sorbonne, studies responsibility from the sociological point of view. Among primitive peoples, the social reaction is directed against the crime rather than against the criminal. Its aim is to restore and reassert the social order which the crime has violated. From this point of view, the modern concept of responsibility in jurisprudence and morality, in which the chief emphasis falls on the intention and the free will of the agent, and on the effects of punishment on him, seems to Fauconnet a degeneration and atrophy of responsibility —the last stage on the road to its complete extinction. Parodi replies by arguing that the sociological evidence contains implicitly the concept of responsibility which modern thought has made explicit; and that, thus, the evolution of the concept has been progressive, not retrogressive. He ends by suggesting that the primitive concept of expiation is reconcilable with the modern concept of social utility.] **M. Winter.** *Les axiomes de la physique différentielle.* [This paper deals, in five sections, with (1) the fundamental axioms, *viz.*, Hilbert's axiom of "stationary action" and the axiom of "general invariance" (*cf.* Einstein's generalised theory of relativity); (2) general remarks about the integration of equations in physics: every problem in physics which is correctly put, must admit of a solution which is logically possible, unique, and has a "physical sense"; (3) the multiple solutions of the problems of the hydro-dynamics of perfect fluids: the apparent "indeterminism" (= multiple solutions) in this field can be eliminated by a better analysis of the physical facts, *i.e.*, by the recognition of physical factors hitherto ignored; (4) the relation of the axiom of stationary action to the axiom of determinism ("axiome de Cauchy," as the author proposes to call it); (5) the nature of axioms: the system of the axioms of physics is a *système expérimentalo-déductif*, *i.e.*,

the unique aim of all postulates and hypotheses in physics is to introduce experimental data as values for the variables of the mathematical formulæ.] **M. Mauss.** *Appréciation sociologique du bolshevisme.* [The concluding chapter of a forthcoming book, in which the author sums up the conclusions, and lessons, from a thorough study of the Bolshevist régime in Russia. Descriptively, he finds Bolshevism evolving into a mixed system of capitalism, state-socialism (*étatisme*), administrative socialism, the formation of free groups (*collectivités libres*), and individualism. It is returning to the type of socialism which is "capitalism without vested rights". For general political theory the chief moral is the failure of systematic violence and of the attempt to create a millenium by legislation: "the law does not create: it merely sanctions". Hence, the lesson for statesmanship is that legislation must follow, not precede, changes in the mental and economic habits of a people. And, lastly, the conclusion for "political logic" is that no analogy holds between Russia and the industrial states of the West. The circumstances in Russia are too different and too abnormal to prove anything either for, or against, a sane and moderate socialism in the West.] New books. Periodicals. Communications. 31e Année, No. 2. Avril-Juin, 1924. A special number wholly devoted to articles on the philosophy of Kant in commemoration of the second centenary of Kant's birth. **L. Brunschvicg.** *L'idée critique et le système Kantien.* [An article of 70 pages, of very great interest, as giving a survey of Kant's critical philosophy from a strictly *positivist* (Comtist) point of view. Kant's *idée critique*, for Brunschvicg, consists in exhibiting the "creative freedom of scientific knowledge and of moral action". Kant's abiding achievement lies in his transformation of Descartes' *cogito* into the synthetic function of the consciousness as such, which is thus conceived as inherently "dynamic" and "creative of truth". It is this synthetic activity which turns perception into science, and prescribes the moral law to conduct. At the same time, this activity is treated strictly on the "human plane". It is not conceived as an imperfect image of the reason of a transcendent God, nor is its truth an inadequate fragment of the absolute truth apprehended by an all-inclusive mind. Kant's "Kingdom of ends" is interpreted as the *société éthico-civile* which is one with the Church of Comte's religion of humanity, and Kant's ideal of the union of virtue and happiness in a future life as a symbol of the perfection which the human race on this earth is to achieve by moral effort illuminated by scientific knowledge. "Thanks to Kant, the enterprise of modern civilisation, begun in France by Montaigne and Descartes, is assured of success."] **J. Nabert.** *L'expérience interne chez Kant.* [A careful study (well worth comparing with the relevant pages in Prof. Ward's *A Study of Kant*) of the difficulties surrounding Kant's doctrine of the "inner sense," in its bearing on the self as substantial soul and as logical subject of knowledge; on the data and methods of psychology as a natural science; on the relation of "internal" to "external" experience, and the function, in both, of time as an *a priori* form. The author's summary is: "There is no consciousness of our existence in time, unless there is an order of time. But there is no order of time except so far as the category of causality determines the form of the inner sense. And the order of time thus determined can be known only through physical movements in space. . . . Thus the consciousness of our own existence rests, not on a linkage of psychic states directly given to the inner sense, but on intellectual acts which introduce into physical nature an intelligible order, and thus enable us to determine our own existence in time."] **L. Robinson.** *Contributions à l'histoire de l'évolution philosophique de Kant.* [This long article of 84 pages is by far the most important in the whole Kant-number. In three respects it throws new light on the development of

Kant's philosophical thought. (1) It shows that Kant's acquaintance with Hume's *Enquiry* (in Sulzor's translation) must date at least as far back as 1757, instead of the dates 1769, or even 1772, proposed by B. Erdmann and others. (2) It makes it probable that Kant's treatment of the first two antinomies was influenced by Bayle (art. on *Zeno* in the *Dictionnaire*) and by Arthur Collier (*Clavis Universalis*, in Eschenbach's translation, publ. 1756). (3) It shows that the original problem of the *Critique of Pure Reason* was that of the *origins of intellectual knowledge*—a problem implied in the Dissertation of 1770. In this wider problem is contained, as a special case, the problem suggested by Hume's criticism of causality and generalised by Kant into: How are *a priori* synthetic judgments possible?] **Th. Ruyssen.** *Les origines Kantiennes de la Société des Nations.* [A good survey of Kant's various utterances, in at least four different books or essays, on the establishment of perpetual peace through the formation of a League of Nations. The author shows also how far Kant owed his interest in such speculations to the Abbé de Saint-Pierre, to Rousseau, to Hume, and to Chr. Wolff.] New books. Periodicals.

SCIENTIA. January, 1924. **A. Kopff.** *La déviation des rayons lumineux au voisinage du Soleil et la théorie de la relativité.* **R. W. Hegner.** *The Mass Relations of Cytoplasm and Chromatin and their Bearing on Nuclear Division and Growth.* **E. Lugaro.** *L'incosciente in psichiatria.* **E. Antonelli.** *La Société des Nations et la politique des mandats.* Book Reviews. February, 1924. **G. Fubini.** *Sul valore della teoria di Einstein.* **T. Brailsford Robertson:** *The Mechanistic Origin of Finalism.* (From the Darling laboratories of Physiology and Biochemistry, Adelaide University.) The fundamental question at issue between the mechanist and the vitalist cannot be settled by an appeal on the one hand to the mechanical character of the various operations which constitute the manifestations of life or by demonstration on the other hand, of the unique properties of the living machine. Both thinkers are agreed that the combination in one machine of the parts of the living organism is unique. The real issue is whether this unique combination of parts, many of them elsewhere familiar, is designed to achieve an intelligible purpose, or whether on the contrary, it is purely the outcome of necessities imposed upon a particular type of chemical machine by the variations of the restraining conditions under which that machine operates. Modern Physiology and Biochemistry abound with examples of 'finalism' which is a fundamental peculiarity of living matter, attributable to the mnemonic property of nervous energy. It is suggested that finalism is exhibited in some degree or other by all forms of life, and that the degree of finalism which is displayed by any form of life is the only true measure of its degree of advancement in the scale of evolution. [The various examples adduced in this article are of philosophic interest.] **E. L. Bouvier.** *La mémoire chez les Insectes.* **G. Stepanow.** *Une interprétation économique de la révolution russe.* Book Reviews. March, 1924. **L. De Marchi.** *Tremblements de Terre.* **W. C. M. Lewis.** *Atomic Structure and Quantisation.* **J. Duclaux.** *L'origine et le maintien de la vie.* **L. Le Fur.** *Le droit d'intervention et la Société des Nations.* Book Reviews. April, 1924. **F. G. Teixeira.** *Sur l'histoire de la fondation de l'Astronomie nautique.* **R. Marcolongo.** *La relatività ristretta. Parte I^a: Suo punto di partenza sperimentale.* **D. F. Harris:** *A Defence of Philosophic Neo-Vitalism.* (From Dalhousie University, Halifax, Canada.) Living Beings appear to share the properties of affectibility, or response to a stimulus, and inertia, or insusceptibility to stimulation. It must, however, be admitted that these properties are

not peculiar to living beings. Many examples, however, are cited from physiology and biochemistry with the object of demonstrating that living beings are essentially dissimilar from non-living mechanisms. Mill's method of Difference and the method of Concomitant Variations are employed on these data. [This article provides an example of the way in which the traditional logic is still employed by modern biologists. It also provides much material of interest in the mechanistic controversy, drawn from recent researches in many fields.] **M. Moye.** *L'évolution moderne du droit international.* Book Reviews. May, 1924. **R. Marcolongo.** *La relatività ristretta. Parte IIa: Modificazioni che essa apporta nei concetti di spazio e di tempo.* **W. H. R. Rivers.** *Psychological Dissociation as a Biological Process.* **A. A. Mendes-Corrêa.** *L'origine de l'homme. L'état actuel du problème.* **P. Bonfante.** *Rome et Amérique.* Book Reviews.

KANT-STUDIEN. Band xxviii., Heft 3-4, 1923. **Robert Jelke.** *Die Realisierung in Natur-und-Geisteswissenschaft.* [The author examines Külpe's arguments for "realism" as applied both to the physical world and to the self. The argument in the former case (with which the author agrees) is based on "die selbständige Gesetzmässigkeit" of perceived content, and concludes that such independent laws imply terms independent of us, for relations are nothing without terms. Pp. 236-239 are specially important as regards the physical world. A rather similar argument by Külpe for the existence of the self is rejected, and a theory which bases the knowledge of the self on æsthetic and moral experience and shows the close connexion between the self and objects is developed.] **Josef Spindler.** *Das Problem des Schematismuskapitels der Kritik der reinen Vernunft.* [A discussion of the schemata of Kant with special reference to the problem of ordinary universals. It makes a sharp distinction between the transcendental schema and the schema as our way of thinking about all universals.] **Fritz Sonder.** *Zur Methodik der Rechtswissenschaft.* **Ehrenfried Mathesius.** *Zur Dialektik der Einheit des Praktischen und Theoretischen.* **Walter Feilchenfeld.** *Leibniz und Henry More.* [An attempt to estimate Leibniz's debt to the English neo-platonist.] **Hans Lipps.** *Bemerkungen zu der Paradoxie des Lügners,* [*i.e.*, the question as to why the statement—I lie—cannot be regarded as either true or false without self-contradiction.] **Hans Hess.** *Epochen und Typen der philosophischen Historiographie.* **August Messer.** *Rickert und der kritische Realismus.* [A summary account of a type of objective idealism with a view to its reconciliation with critical realism.] **Hugo Dingler.** *Theorie und Empirie.* [Largely an appreciation of Carnap's work on the function of physics. Tries to derive the *a priori* and really universal element in science from definition, maintaining that really universal causal laws must take the form of tautologies, *e.g.*, "the sun warms the stone in the absence of disturbing conditions".] **Arthur Liebert.** *Zu Wilhelm Dilthey's Gesammelten Schriften.* **Walter Kinkel.** *Paul Natorp und der kritische Idealismus.* [An appreciation of Natorp's work in developing and defending Kantian idealism and of "der soziale und humane Zug seines Denkens". Natorp developed the thought that an object is not a given thing but a problem, and argued that, so far from theoretical and practical being at variance ultimately, consciousness of ends is bound up with the unity of mind and the necessary connexion of phenomena by laws. Natorp makes religion feeling with Schleiermacher, but, while Schleiermacher makes it feeling of an infinite object, Natorp makes it infinite feeling not admitting of an object.] **Max Ettlinger.** *Zum 70stem Geburtstag Clemens Baeumkers.* Reviews, etc. The much regretted death of Prof. Dr. Max Frischeisen-Köhler, one of the editors of the Kant-Studien, is announced in this number.

X.—NOTES.

DR. DREVER ON PSYCHO-ANALYSIS.

Dr. Drever in his review of Dr. Wohlgemuth's book on psycho-analysis says that "apart from the points made by everybody, the main points made against Freud are: (1) That unpleasant experiences are not more readily forgotten than pleasant . . . and (2) That Freud's method as applied to the analysis of numbers can be made to prove anything". The first of these two points is by far the more important and has a significance that goes well beyond the present occasion. This justifies some comment upon it.

Dr. Wohlgemuth asked a number of schoolgirls just returned from their vacation, to recall their pleasant and unpleasant experiences and to record them. A few days later the process was repeated and the amount of oblivescence was calculated. This was the basis for the criticism of Freud.

That Wohlgemuth could have taken the uncriticised testimony of these girls as a basis for his study shows that he does not understand Freud's doctrine at all, and that Dr. Drever could have approved the criticism made on such a basis shows that he understood it almost as little. Dr. Wohlgemuth's reading of Freud is so prejudiced that one can easily believe that he at no time understood very much, but Dr. Drever's case is different. He probably did understand well enough while he was reading, but he never got so thoroughly to the heart of the matter as to prevent oblivescence when it came to the time for reflection and criticism.

The heart of the analytic practice and doctrine is the all but inextricable confounding of attraction and repulsion, of the pleasant and the unpleasant, of desire and fear. If the matter had been so simple that schoolgirls could have distinguished, there would have been no anxiety neuroses, there would have been no "Freud," there would have been no psycho-analysis. That the distinctions are not easy to make is, for practice, a matter of common knowledge. Children are often fascinated by the terrifying. The newspapers' working up of horrors; the general interest in accident and crime; the attraction of the Bluebeards in legend and of the Landrus in fact; the frequent uncertainty as to whether we are more outraged and shocked, or intrigued; all these attest to the confusion. In the sexual sphere it is at its worst. Even our common speech, notably that of schoolgirls and other adolescents, is full of such expressions as 'frightfully interesting,' 'awfully nice,' and 'terribly attractive'. To have missed this significance when one was reading Freud is practically not to have read him at all, and to have failed to hold on to this is to have read him to little profit. This is a common fault of critics.

It is indeed unfortunate that criticism plays so large a part in philosophy and general psychology. Many of the books in these subjects whose purpose is ostensibly constructive, are mostly taken up with criticism of others' theories. The consequence is that, even if in the course of reading an author one understands him, the tension of the reader's larger purpose is directed towards refutation rather than towards apprehension. Therefore the reader never reaches the stage where he

actually realises the significance of the doctrine as it has had value in the mind of its author. He studies it *in vacuo*. His own doctrine he does realise; the doctrine of the other man he at best apprehends, only to let it go as soon as he begins to 'live' again.

But what is the use, one may seriously ask, of giving a real importance to study when one's own doctrines are given all the advantage that comes from the sense of their value in a context of environment, irradiations, and consequences, and the other man's doctrine is so studied that it drops to pieces like a house of cards, as soon as the attention is distracted; or else its centre of gravity is changed and it is made to somersault in such a way as no longer to have the same character as it had when the author's purpose was genuinely considered, if indeed this had at any time been the case? It is so common for the differences between A and B to seem of little importance to C, those of A and C to B, those of B and C to A, because in each case the critic reduces the other man's system to some abstract propositions which are often in their aridity of little importance, while for himself he feels his own system charged with all the push and circumstance of a cosmos.

The lightness with which philosophers turn to criticism seems to me a measure of their intellectual frivolity, and justifies almost wholly their comparative disrepute. It should be evident that one is not really trying to understand another when one does not try to understand how it is possible for that other to believe what he does. But in fact a man who has in the background of his mind the doctrines which he himself believes, and which he thinks work consonantly with the structure of the universe, is not likely to try to see whether the other man's system works equally well. Indeed he cannot do so. There is always underlying his study of the other man's work a group of tendencies which if expressed in words would run somewhat as follows. "If you are right, I am wrong. But since I am not wrong you cannot be right. However, I am an honest man and cannot call you wrong if I think that you are right. Therefore I shall read and remember you in such a way that you must inevitably be wrong." Tricks of attention and obliviscence achieve the purpose. Very often during one's reading of a book one is struck by the significance of presented facts or arguments which are soon, and without effort, eliminated, or attenuated to a desired shape or proportion. I have been struck again and again by the errors of memory in quotation. I have, for instance, a great admiration for William James, for the balance and sanity of his mind. Often I have referred to the original when I have found attributed to James, even by most reputable authors, statements that seemed to me silly or nonsensical—usually they seemed so to the authors also—and in almost all cases I have found the attributed beliefs or ideas inaccurate to the point of perversion. It is what James would have said perhaps, if he had been the happy-go-lightly, genial, self-contradictory person that the critic was talking about. It is because the mind, except under a discipline for disinterestedness which our present social conditions and education do not supply, operates in this way, that one can without loss skip most of the critical parts of philosophical literature—criticism, of course, not of concepts, but of the interpretations by others—since, in fact, they are criticisms of what no one will maintain.

Much of this sort of thing would be realised if the significance of what psycho-analysis teaches were really apprehended. We should not then, as in the instance of our authors, find people forgetting that forgetting does not necessarily mean total obliviscence, and that unpleasant does not necessarily mean grossly or obviously unpleasant. Freud's Psychoanalysis of Everyday Life and many other studies show that both forgetting and unpleasantness are of all degrees and kinds. Not only this, but what

is practically most important in forgetting is often not forgetting of the brute fact at all, but the forgetting of context, relation, significance, matters which obviously cannot be proved by statistics. The deformation of reasons and the self-justification of conduct are the commonest cases. A sure sign of unpleasantness is the reaction of self-defence in a reader. This which should prove to him that he is not competent to read, does, in practice, encourage him to prove his author wrong even if he must incidentally forget most of what he knows about him. Many people to-day could answer correctly questions about psycho-analysis and yet forget in practice that which as mere information they possess. Therefore it is not at all surprising that a prejudiced, though accomplished and learned, psychologist like Dr. Wohlgemuth should understand essentially nothing of psycho-analysis, and that a much more open-minded one like Dr. Drever, who has his own views on many matters discussed by Freud, should falter in his understanding.

A real experiment on oblivescence in relation to pleasant-unpleasantness might be made if happenings were described immediately and again after a lapse of time, and the variations were studied. Useful material for such study would be found in those cases where memoirs can be checked up by journals or contemporary letters.

LEO STEIN.

SIXTH INTERNATIONAL CONGRESS OF PHILOSOPHY.

The American Philosophical Association, through the courtesy of Prof. H. Wildon Carr, Honorary Secretary of the Fifth International Congress, appointed for London in 1915, but interrupted by the war, has been authorised by the Permanent International Committee, as constituted at the Congress of Bologna, 1911, and by the English Organisation Committee of 1915, to convene the next International Congress in the United States. The American Association has also received assurances of cordial support from philosophical scholars in England, France, Germany, and Italy. It, therefore, announces its decision to invite the philosophers of all nations to meet with it in the United States in the second week of September, 1926. The place of meeting—to be more definitely announced later—will be at one of the Eastern Universities, not far from New York. English, French, German, Italian, and Spanish will be recognised as the official languages of the Congress.

In a few months the American Association intends to issue a fuller announcement of the plan of the Congress and more formal invitations to its sister associations, other learned bodies, and our colleagues throughout the world. Meanwhile, inquiries and correspondence may be addressed to the Corresponding Secretary, Prof. John J. Coss, Columbia University, New York, U.S.A.

For the Organising Committee—
NICHOLAS MURRY BUTLER, *Chairman.*
A. C. ARMSTRONG, *Honorary Secretary.*

NEW YORK, *August*, 1924.

DEATH OF F. H. BRADLEY.

We regret to announce the death of F. H. Bradley, who died on September 18th, at the age of 78.

A series of articles on his philosophy will appear in the January number of MIND.

MACMILLAN'S NEW BOOKS

BERNARD BOSANQUET. A Short Account of his Life. By HELEN BOSANQUET. Illustrated. Extra Crown 8vo. **6s.** net.

THE SCIENTIFIC APPROACH TO PHILOSOPHY. Selected Essays and Reviews. By H. WILDON CARR, Hon.D.Litt. Durham, Professor of Philosophy in the University of London. 8vo. **12s.** net.

"Those on Bergson and Croce remind us of the work Dr. Carr has already done at greater length in the elucidation of these thinkers; yet they are by no means postscripts, but rather expositions re-thought and re-stated for which we cannot be too grateful. In their present grouping they constitute, as a whole, the new prolegomena to the understanding of the world, as well as a fine defence of philosophic idealism which the theologian cannot afford to neglect."—*The Guardian.*

THE DEVELOPMENT OF BERKELEY'S PHILOSOPHY. By G. A. JOHNSTON, M.A., author of "An Introduction to Ethics for Training Colleges," Crown 8vo. **8s. 6d.** net.

"A valuable historical study, clearly written and candidly expressed."—*International Journal of Ethics.*

PROLEGOMENA TO AN IDEALIST THEORY OF KNOWLEDGE. By NORMAN KEMP SMITH, D.Phil., LL.D., Professor of Logic and Metaphysics in the University of Edinburgh. 8vo. **10s. 6d.** net.

"This book may be confidently recommended to students of philosophy. Whether they end by accepting its doctrine or not, they cannot fail to benefit by considering it carefully.—Dr. J. ELLIS MCTAGGART in *The Cambridge Review.*

"An interesting and important work."—Dr. J. S. MACKENZIE in *Mind.*

MACMILLAN & CO., LTD., LONDON, W.C. 2

THE OPEN COURT COMPANY

SUBSTANCE AND FUNCTION AND EINSTEIN'S THEORY OF RELATIVITY. By ERNST CASSIRER. Translated from the German by W. CURTIS SWABEY and MARIE COLLINS SWABEY. An investigation of the function of the Concept in its relation to the entire field of exact science. Cloth. **18s.**

"The translators of Prof. Ernst Cassirer's most important contributions to mathematics-logical theory have done well to issue his 'Substanzbegriff und Fonktionsbegriff' and his 'Zur Einsteinschen Relativitatstheorie' together in one volume. . . . The translation has succeeded in reproducing the clear scientific expression of the German and reads like an original English work. . . . It is not possible to give more than an indication of the important contemporary work on methodology and philosophy of science which is surveyed and systematised in this book. Most students will probably turn first to what is described as a supplement, the essay on Einstein's Theory of Relativity from the Epistemological Standpoint. The value of this essay is enhanced by the fact that Einstein himself read it in manuscript and gave the author the benefit of his criticisms."—NATURE, Aug. 9, 1924.

THEORIA PHILOSOPHIÆ NATURALIS put Forward and Explained. By ROGER JOSEPH BOSCOVICH, S.J. LATIN-ENGLISH EDITION. From the Text of the First Venetian Edition, published under the personal superintendence of the author in 1763. With a short life of Boscovich. Imperial Quarto. Cloth. **£3 3s.** net.

"It is of great value to have an English translation such as that which is now published. The work (including the figures) is beautifully printed with the English translation facing the Latin text. The book should find its place in every mathematical and philosophical library, and will prove full of interest to all those to whom mechanics means more than engineering."—SCIENCE PROGRESS, April 1924.

THE OPEN COURT MAGAZINE. Monthly. **1s.** net. **9s. 6d.** per annum (post free).

THE MONIST. A quarterly Journal devoted to the Philosophy of Science. **3s. 6d.** net. **13s. 9d.** per annum (post free).

☞ *Please send for our new Illustrated Catalogue.*

149 Strand, London, W.C. 2

BROADWAY HOUSE

LIBRARY OF PSYCHOLOGY, PHILOSOPHY, AND SCIENTIFIC METHOD

Demy 8vo, cloth. **6s. 6d.** to **25s.** net.

LATEST VOLUMES:—

THE PHILOSOPHY OF "AS IF"

By HANS VAIHINGER. **25s.** net.

This work by the well-known disciple and expounder of Kant carries the theory of "fictional ideas," necessarily used and necessarily false, into all the departments of scientific thought.

MEDICINE, MAGIC, AND RELIGION

By W. H. R. RIVERS, F.R.S. **10s. 6d.** net.

Based on a mass of facts and a long period of field-work, this book elucidates generally the methods of thought and organization in primitive societies, as well as the special function of medicine-men and magicians.

THE NATURE OF INTELLIGENCE

By L. L. THURSTONE, Ph.D. **10s. 6d.** net

An attempt to reconcile the doctrines of the academic school of psychology with the theories of psychoanalysis and behaviourism.

INDIVIDUAL PSYCHOLOGY

By ALFRED ADLER. **18s.** net

The classic exposition of this important branch of psychology. Dr. Adler's views are based on his fundamental assumption of "organ-inferiority" and the desire for power.

THE NATURE OF LAUGHTER

By J. C. GREGORY. **10s. 6d.** net.

The author traces the development of laughter from its primitive expressions to its most refined forms, his thesis being that laughter has been humanized or civilized.

SPECULATIONS

By T. E. HULME. Preface by JACOB EPSTEIN. **10s. 6d.** net.

Essays by this little-known but brilliant thinker on Humanism and the Religious Attitude, Modern Art and its Philosophy, Romanticism and Classicism, Bergson's Theory of Art, Philosophy of Intensive Manifolds, etc.

FULL PROSPECTUS ON APPLICATION

KEGAN PAUL

68-74 CARTER LANE, E.C. 4

ABERDEEN: THE UNIVERSITY PRESS

